Supreme Court, U.S.
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No. 98-____

IN THE

Supreme Court of the United States

OCTOBER TERM, 1998

THE LUBRIZOL CORPORATION,

Petitioner,

v.

EXXON CHEMICAL PATENTS, INC.,
EXXON CORPORATION, and
EXXON RESEARCH AND ENGINEERING CO.,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

In this case, respondent sued petitioner for alleged patent infringement. At trial, respondent secured a verdict and judgment in its favor. On the first appeal in this case by the petitioner verdict-loser, the United States Court of Appeals for the Federal Circuit, acting under Rule 50(d) of the Federal Rules of Civil Procedure, ordered entry of judgment as a matter of law ("JMOL") for the petitioner verdict-loser "without remand." Thereafter, in the district court, respondent moved for a new trial which was denied, the district court finding that it had "no authority" to act. On a second appeal, the court of appeals held that the reversal without remand on the first appeal did not foreclose a new-trial motion by respondent in the district court on a new legal theory. The question presented is:

Whether the decision of the court of appeals in this second appeal, holding that a district court may grant a new trial after a reversal "without remand," is inconsistent with this Court's explicit holding in *Neely v. Martin K. Eby Construction Co.*, 386 U.S. 317 (1967), that Rule 50(d) of the Federal Rules of Civil Procedure forecloses a new-trial motion in the district court where there was no remand on the first appeal.

PARTIES TO THE PROCEEDINGS

The parties to the proceedings in the United States Court of Appeals for the Federal Circuit were The Lubrizol Corporation, Exxon Chemical Patents, Inc., Exxon Corporation, and Exxon Research and Engineering Co.

Pursuant to Supreme Court Rule 29.6, Petitioner The Lubrizol Corporation states that it has no parent companies or nonwholly owned subsidiaries.

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PETITION FOR A WRIT OF CERTIORARI

The Lubrizol Corporation ("Lubrizol") respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit in this case.

OPINIONS BELOW

The opinion of the United States Court of Appeals for the Federal Circuit in this case is reported at 137 F.3d 1475. It is reprinted at pages 1a-15a of the appendix to this petition. The order of the United States Court of Appeals for the Federal Circuit denying Lubrizol's petition for rehearing, and declining its suggestion of rehearing *in banc*, is unreported. It is reprinted at pages 16a-17a of the appendix to this petition. The order of the district court is unreported. It is reprinted at page 18a of the appendix to this petition.

Two earlier opinions of the United States Court of Appeals for the Federal Circuit, from earlier stages of this case, are reported at 64 F.3d 1553 (panel opinion) and 77 F.3d 450 (order denying rehearing and declining suggestion for rehearing *in banc*, together with concurrences and dissent from the order denying rehearing and declining suggestion for rehearing *in banc*). They are reprinted at pages 33a-62a and 19a-32a, respectively, of the appendix to this petition.

JURISDICTION

The judgment of the United States Court of Appeals for the Federal Circuit was entered on March 4, 1998. Lubrizol's Combined Petition for Rehearing and Suggestion For Rehearing *In Banc*, which was timely filed, was denied on April 28, 1998. On July 21, 1998, the Chief Justice extended the time for filing a petition for certiorari to and including August 3, 1998. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

Rule 50(d) of the Federal Rules of Civil Procedure provides:

If the motion for judgment as a matter of law is denied, the party who prevailed on that motion may, as appellee, assert grounds entitling the party to a new trial in the event the appellate court concludes that the trial court erred in denying the motion for judgment. If the appellate court reverses the judgment, nothing in this rule precludes it

from determining that the appellee is entitled to a new trial, or from directing the trial court to determine whether a new trial shall be granted.

STATEMENT

This case presents an important issue of federal procedure, concerning the continuing validity of this Court's decision in *Neely v. Martin K. Eby Construction Co.*, 386 U.S. 317 (1967), which interpreted the text of Rule 50(d) of the Federal Rules of Civil Procedure. Rule 50(d) provides a party on appeal who has won a favorable verdict and judgment with the opportunity to, "as appellee, assert grounds entitling th[at] party to a new trial" if the appellate court subsequently reverses the judgment.

Under Rule 50(d), the court of appeals may order judgment for the appellant without further proceedings on remand; alternatively, the appellate court may itself order a new trial, or "direc[t] the trial court to determine whether a new trial shall be granted." Fed. R. Civ. P. 50(d). The Rule makes no provision for a new-trial motion in the district court if the court of appeals fails to "direc[t] the trial court to determine whether a new trial shall be granted."

In *Neely* this Court confronted the question whether Rule 50(d) was merely permissive, or whether it requires that any new-trial request be first presented in the court of appeals. Rejecting the contention that Rule 50(d) was merely permissive, this Court in *Neely* ruled that the procedure described in Rule 50(d) was mandatory, holding that a party's "right to seek a new trial in the" district court is "dependent upon the disposition by the Court of Appeals under Rule 50(d)." 386 U.S. at 324. In dissent, Justice Black succinctly described the majority holding as requiring that "the verdict winner should have to claim his right to a new trial in the Court of Appeals or lose it." *Id.* at 337 (Black, J., dissenting).

Contrary to *Neely*, the court of appeals here — in an unprecedented ruling — held that Rule 50(d) is, in fact, merely permissive. Under the court of appeals' view, the Rule allows losing appellees to move the district court for a new trial even where the court of appeals has not

"direct[ed] the trial court to determine whether a new trial shall be granted." App. 7a.

The Parties and the Trial. This particular case arises out of a patent-infringement dispute between Lubrizol and three Exxon entities — Exxon Chemical Patents, Inc., Exxon Corporation, and Exxon Research and Engineering Co. (collectively, "Exxon"). In 1989, almost ten years ago, Exxon sued Lubrizol for infringement of United States Letters Patent No. 4,867,890 ("the '890 patent"). Under the patent laws, direct infringement of a patent may be found when the accused device or method comprises each element required by the language of the patent claim (literal infringement). Alternatively, infringement may be found under the doctrine of equivalents, which states that "a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is 'equivalence' between the elements of the accused product or process and the claimed elements of the patented invention." *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 117 S. Ct. 1040, 1045 (1997). Thus, a patent holder may assert two distinct theories of infringement — literal infringement or infringement under the doctrine of equivalents.

This case was tried exclusively on a theory of literal infringement, and there was no reference to the doctrine of equivalents at all during the course of the trial. Specifically, there was no "particularized testimony and linking argument" showing the "insubstantiality of the differences" between Exxon's and Lubrizol's products that the Federal Circuit's precedents require for a claim of infringement under the doctrine of equivalents.[1] At the close of the presentation of Exxon's evidence, Lubrizol moved the district court for JMOL, urging that Exxon had failed to establish literal infringement under the correct claim construction, and had not presented any evidence of infringement under the doctrine of equivalents. In opposing JMOL, Exxon argued only that it had proved literal infringement.

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[1] *See, e.g., Texas Instruments Incorporated v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1567 (Fed. Cir. 1996), *cert. denied*, 117 S. Ct. 1818 (1997).

As in most patent-infringement cases, the proper interpretation of the patent claims was vigorously disputed by the parties prior to submission to the jury. *See, e.g., Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). Under Exxon's claim construction, literal infringement was more easily established; under Lubrizol's construction, infringement was almost impossible to establish. After the close of all the evidence, the district court decided to charge the jury with Exxon's proposed claim construction. Exxon then withdrew the portion of the jury charge concerning infringement under the doctrine of equivalents. The jury returned a verdict in Exxon's favor. In a post-trial motion for JMOL pursuant to Rule 50(b), Lubrizol again urged that Exxon had not established either literal infringement or infringement under the doctrine of equivalents. Exxon, in its opposition brief, again only claimed that its evidence supported literal infringement. Exxon prevailed on the motion, and the district court entered a judgment on a December 23, 1992 jury verdict holding that Lubrizol had infringed the '890 patent. In the course of briefing on Lubrizol's post-trial motion for JMOL, however, Exxon never claimed that it should be conditionally awarded a new trial under the doctrine of equivalents in the event that Lubrizol's JMOL motion were granted. *See* Fed. R. Civ. P. 50(c)(1).

The 1995 Appeal Decision. On appeal from the judgment of infringement, the Federal Circuit in 1995 agreed with Lubrizol on the central issue of claim construction, adopted what it called a "slight variance" of Lubrizol's proffered claim construction, and determined that, under this claim construction, there was no evidence that Lubrizol's accused products would infringe the '890 patent. Lubrizol's brief in the court of appeals observed that Exxon only asserted literal infringement. Exxon did not contest this showing. App. 33a, n.1. The court of appeals thus reversed the judgment of patent infringement as a matter of law, and ordered judgment for Lubrizol "without remand for a second trial." App. 45a.

Judge Nies, dissenting, criticized the majority's decision because it "simply cuts Exxon off from its right to have the issue of infringement under the" doctrine of equivalents tried to a jury in a new trial. App. 62a. In response, the majority did not address the doctrine of equivalents or whether Exxon should have an opportunity for a new

trial under that doctrine. It merely observed, in a footnote, that the new-trial question was neither briefed nor argued and that it did not "express [any] view on that question." App. 33a, n. 1.[2]

In its rehearing petition, Exxon — notwithstanding the court of appeals' failure to remand the case for consideration of a new-trial motion — stated that it viewed itself entitled to move for a new trial in the district court under a doctrine-of-equivalents theory of infringement. App. 3a. Nonetheless, "out of an abundance of caution," Exxon requested what it called "clarif[ication]" of its right to move for a new trial in the district court. App. 3a. The court of appeals denied Exxon's petition, and declined to rehear the case *in banc*. App. 19a. Although the members of the panel majority, as well as two other members of the court of appeals, filed concurring or dissenting statements from this order, no further "clarification" of the panel's directive was given, and the case was not remanded to the district court. App. 19a. Even the judge dissenting from the denial of rehearing *in banc*, Judge Newman, reiterated Judge Nies's earlier objection that the court's "refusal to remand" would prevent Exxon from having the opportunity to retry "the new factual issues raised by this court's new law of claim construction." App. 31a-32a.

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[2] The full text of footnote 1 reads:

> The judgment is limited to literal infringement of Exxon's claims. The jury was charged solely with respect to literal infringement, directly or by inducement or contribution, and whether such literal infringement was willful. Although Exxon initially proposed a jury charge on infringement under the doctrine of equivalents, its counsel consented to the deletion of the doctrine of equivalents from the infringement charge given to the jury. Lubrizol's brief notes that "Exxon asserted only literal infringement", and Exxon does not contest that statement. The dissenting opinion raises a question of whether Exxon is now entitled to a jury trial on infringement under the doctrine of equivalents. That issue was not briefed or argued to the panel, and consequently we, unlike Judge Nies, express no view on that question.
>
> App. 33a, n.1.

Exxon then sought certiorari. It recognized, in its petition and related filings before this Court, that the court of appeals had reversed "without remand for a second trial."[3] It similarly objected to the Federal Circuit's "award of judgment against Exxon without a remand," and complained that "the court awarded Lubrizol judgment as a matter of law," "[i]nstead of remanding the case to the district court for further proceedings."[4] Certiorari was denied. *See* 518 U.S. 1020 (1996).

Exxon's Motion for New Trial. Ten days after the issuance of the court of appeals' mandate on March 1, 1996, Exxon moved for a new trial in the district court under a doctrine-of-equivalents theory of patent infringement. The district court denied Exxon's motion, finding "no authority" to grant it in view of the court of appeals' prior decision. App. 18a. Exxon appealed.

The Federal Circuit's Decision. On March 4, 1998, the Federal Circuit vacated the district court's judgment and remanded. The court of appeals acknowledged "[t]he exclusion of an explicit remand in the first [1995] . . . opinion." App. 15a. Nonetheless, the court observed "the general rule that an appellate mandate governs only that which was actually decided" (App. 3a) and pointed to the earlier panel's "express disclaimer" (App. 4a) on the "question of whether Exxon is now entitled to a jury trial on infringement under the doctrine of equivalents." App. 2a. It therefore ruled that since the earlier panel's "opinion dealt only with the issues of claim construction and literal infringement" (App. 4a) and since "a judgment that does not specifically provide for a remand is not necessarily incompatible with further proceedings to be undertaken in the district court" (App. 14a), Exxon's new-trial motion was permissible. The court of appeals specifically ordered the district court to consider "the questions whether Exxon is entitled to a new trial . . . and whether there is any

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[3] Petition for Certiorari at 24, *Exxon Chemical Patents, Inc. v. The Lubrizol Corporation*, 518 U.S. 1020 (1996) (No. 95-1900) (quotations omitted).

[4] *Id.* at 8.

procedural flaw in Exxon's motion that would prevent the district court from considering the motion on its merits." App. 13a.

Despite Lubrizol's contrary showing, the court of appeals viewed its result as consistent with Rule 50(d) and this Court's decision in *Neely v. Martin K. Eby Construction Co.* The court of appeals understood *Neely* to stand only "for the proposition that in an appropriate case a court of appeals *may* direct that judgment be granted against an appellee without permitting the appellee to seek a new trial from the district court." App. 10a, emphasis supplied. In reaching its conclusions, the court relied heavily on *Weade v. Dichmann, Wright, & Pugh, Inc.*, 337 U.S. 801 (1949), a case decided almost 20 years before *Neely* and well before the 1963 enactment of Rule 50(d). App. 8a. This Court in *Neely* specifically distinguished *Weade* on the ground that "Rule 50(d) makes express and adequate provision for the opportunity . . . to present . . . grounds for a new trial" on the first appeal, and that, in *Weade*, these provisions had not yet been put in place by Rule 50(d). 386 U.S. at 329. The court of appeals held that it could only act on the first appeal to foreclose a new trial motion if raising new trial issues would not be "an undue burden on the [losing] appellee" (App. 12a), and if the record allowed the court of appeals "to make an informed judgment" on the issue. App. 10a.

Subsequent to issuance of the mandate from the court of appeals, and in light of the pendency of this petition, the district court delayed all further proceedings on Exxon's motion for a new trial, "order[ing]" "the parties to report to the Court on or before November 1, 1998, the status of the case."

REASONS FOR GRANTING THE WRIT

In *Neely v. Martin K. Eby Construction Co.*, 386 U.S. 317, this Court held that, under Rule 50(d) of the Federal Rules of Civil Procedure, a verdict-winner/appellee whose judgment is reversed on appeal must secure either an order for a new trial from the court of appeals, or a remand to the district court for consideration of a new-trial motion. This rule was held to serve important interests in finality. The court of appeals in this case, however, misunderstood *Neely* and all but ignored the language of Rule 50(d) itself, resulting in a further

extension of this already nine-year-old litigation, which the court of appeals itself described as "lengthy and expensive." App. 2a. The court of appeals turned *Neely* on its head by holding that district courts are always free to consider new-trial motions, even after judgment as a matter of law "without remand" is awarded on appeal pursuant to Rule 50(d), so long as the new-trial theory was not specifically rejected by the court of appeals. The court of appeals' decision misread this Court's decision in *Neely*, ignored Rule 50(d), and effectively adopted dissenting Justice Black's rejected construction of Rule 50(d) from *Neely*. This construction of the Rule would permit endless litigation in the district court — so long as a litigant can imagine a theory of liability that was not expressly rejected by the court of appeals. The impact of the decision will be significant within all Circuits, and particularly in patent-infringement cases within the exclusive jurisdiction of the Court of Appeals for the Federal Circuit.

Certiorari should be granted, and the case set for briefing and argument. In the alternative, this Court may wish to consider summary reversal in view of the plain conflict between the decision below and this Court's controlling decision in *Neely*.[5]

I. THE COURT OF APPEALS' DECISION CONFLICTS WITH THIS COURT'S DECISION IN *NEELY v. MARTIN K. EBY CONSTRUCTION CO.*

Rule 50(d), which the opinion below nowhere addressed, provides, in pertinent part:

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[5] *See, e.g., Mazurek v. Armstrong*, 117 S. Ct. 1865, 1868 (1997) (per curiam) (summarily reversing in a case where "[t]he Court of Appeals' decision is also contradicted by our repeated statements in past cases"); *Tuggle v. Netherland*, 516 U.S. 10, 14 (1995) (per curiam) (summary reversal: "[b]ecause the Court of Appeals misapplied *Zant* [*v. Stevens*, 462 U.S. 862 (1983)], its judgment must be vacated"); *Wyrick v. Fields*, 459 U.S. 42, 49 (1982) (per curiam) ("Because the Court of Appeals misapplied *Edwards* [*v. Arizona*, 451 U.S. 477 (1981)] and created an unjustified *per se* rule, the petition for writ of certiorari is granted and that court's judgment is reversed and the case is remanded.").

> If the motion for judgment as a matter of law is denied, the party who prevailed on that motion may, as appellee, assert grounds entitling the party to a new trial in the event that the appellate court concludes that the trial court erred in denying the motion for judgment. If the appellate court reverses the judgment, nothing in this rule precludes *it* from *determining that the appellee is entitled to a new trial,* or from *directing the trial court to determine whether a new trial should be granted.*

Fed. R. Civ. P. 50(d) (emphasis added). As the italicized portions of the Rule demonstrate, when a court of appeals reverses a denied motion for JMOL, that court, in lieu of ordering outright judgment for the appellant, has two options: it may "determin[e] that the appellee is entitled to a new trial" in the district court, or it may "direc[t] the trial court to determine whether a new trial should be granted."

In *Neely*, this Court answered a question left unanswered by the text of Rule 50(d): whether the verdict winner was merely *permitted* to seek a new trial or remand in the first instance in the court of appeals or whether the court of appeals was the exclusive forum for securing, at least in the first instance, such relief. The question in *Neely* arose under these facts: In a diversity negligence action, plaintiff won a jury verdict. Subsequently, the defendant moved the district court for JNOV (now JMOL)[6] which was denied. 386 U.S. at 319. The court of appeals found the evidence insufficient to show negligence, ordered JNOV for the defendant, and reversed the judgment without remand. *Id.* The plaintiff failed to seek a new trial or a remand from the court of appeals, pursuant to Rule 50(d). The plaintiff sought review from this Court, urging that the court of appeals lacked the power, under the Seventh Amendment and Rule 50, to order dismissal without the opportunity for a new trial. *Id.* at 322.

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[6] The terminology of "judgment notwithstanding the verdict," also known as "judgment *n.o.v.*" or "JNOV" (for judgment *non obstante veredicto*), was replaced in the 1991 amendments to Rule 50 with the term "judgment as a matter of law," or "JMOL." Despite the change in terminology, the amendments "effect[ed] no change in the existing standard." Fed. R. Civ. P. 50, advisory comm. note to 1991 amendment.

In answering this question, the *Neely* Court stated that the "purpose" behind Rule 50 is to promote sound judicial efficiency and "to speed litigation and avoid unnecessary retrials." 386 U.S. at 326. In keeping with this purpose, *Neely* interpreted Rule 50(d) as describing the mandatory procedures which an appellee must follow in seeking a new trial after an appellate court reverses a trial court's denial of a motion for JMOL. This Court held that the appellee's exclusive remedies were as follows: "the appellee can choose for his own convenience when to make his case for a new trial: he may bring his grounds for new trial to the trial judge's attention when defendant first makes an *n.o.v.* motion, he may argue this question in this brief to the court of appeals, or he may in suitable situations seek rehearing from the court of appeals." *Id.* at 328-29. This Court reasoned that because the "right to seek a new trial in the trial court" is "dependent upon the disposition by the Court of Appeals under Rule 50(d)," "consideration of the new trial question 'in the first instance' is lodged with the court of appeals." *Id.* at 324. This Court concluded that this rule, requiring the court of appeals to "make final disposition of the issues presented" (*id.* at 329), best served the interests in judicial efficiency by eliminating further litigation in the district court unless specifically authorized by the court of appeals.

Justice Black alone dissented in this interpretation of Rule 50(d). He rejected the notion that an appellate court should rule on the new-trial issue. He believed that the "issue of whether a new trial is justified" is a "factual issue and that the trial court is the more appropriate tribunal to determine it has been almost universally accepted." *Id.* at 337 (Black, J., dissenting).

The conflict between the decision below and *Neely* is confirmed by a comparison of the two decisions, which have virtually identical procedural histories. Here, as in *Neely*, the plaintiff secured a favorable jury verdict; subsequently, the defendant moved in the district court for JNOV (now JMOL). *Compare* App. 2a *with* 386 U.S. at 319. In neither case did the plaintiff file a contingent new-trial motion in the district court under Rule 50(c)(1), and the district court denied the JMOL/JNOV motion in both cases. *Compare* App. 59a *with* 386 U.S. at 319. In neither case did the plaintiff, in its brief on appeal, "assert grounds entitling the party to a new trial in the event

the appellate court concludes that the trial court erred in denying the motion for judgment," as Rule 50(d) allows. *Compare* App. 63a *with* 386 U.S. at 320. In both cases, the court of appeals reversed and ordered judgment as a matter of law for the defendants, without remand. *Compare* App. 63a *with* 386 U.S. at 319-20. In neither case did the plaintiff petition the court of appeals for rehearing requesting a new trial or a remand to the district court. *Compare* App. 2a-3a *with* 386 U.S. at 320.

Despite these striking procedural identities, the cases reached opposite results because the court of appeals here disregarded the most fundamental tenet of *Neely* and Rule 50(d). In *Neely*, this Court specifically held that the plaintiff, having failed to secure a new trial from the court of appeals or a specific remand to the district court for consideration of a new-trial motion, was barred from presenting such a new-trial motion to the district court. 386 U.S. at 329-30. In sharp contrast, the court here acknowledged "[t]he exclusion of an explicit remand in the first . . . opinion" (App. 15a), but it held that the absence of this remand was not fatal to the district court's consideration of Exxon's new-trial motion. According to the court below, *Neely* stands only "for the proposition that in an appropriate case a court of appeals *may* direct that judgment be granted against an appellee without permitting the appellee to seek a new trial from the district court." App. 10a, emphasis supplied.

In reasoning reminiscent of Justice Black's dissent in *Neely*, the court of appeals reached its startling and impermissible result by viewing Rule 50(d) and *Neely* as largely irrelevant and proceeding instead to decide the case based on what it perceived to be the "general rule[s]" applicable to the interpretation of appellate-court mandates. App. 3a-4a. Because the court of appeals in the first appeal had "expressed no view" on whether Exxon was entitled to a new trial under a doctrine-of-equivalents theory (App. 3a; *see also* App. 33a n.1), the court below deemed that the first panel only resolved "issues [that] did not require consideration of the doctrine of equivalents" and "the district court [was therefore] free to consider Exxon's motion for a new trial." App. 4a, 11a.

The court below clearly misread *Neely*. Contrary to the court of appeals' holding, *Neely* does not merely state that an appellate court "may" direct entry of judgment without remand. It enforces the terms of Rule 50(d) by requiring a verdict-winner/appellee whose verdict has been overturned on appeal to present its grounds for a new trial in the first instance to the court of appeals, so that the appellate court may decide whether to order a new trial, remand for consideration of a new-trial motion, or order outright judgment for the appellant. *Neely*, 386 U.S. at 328-29. Unless the court of appeals orders a new trial or remands the new-trial question, the litigation is at an end. Under the court of appeals' decision, the situations in which a new-trial motion will be foreclosed on a first appeal will be few. The court of appeals ruled that foreclosure on the first appeal was only appropriate if raising the new-trial issue would not have unduly burdened the losing appellee (App. 12a), and the record would have permitted the court on the first appeal to make an "informed judgment" on the new-trial issue. App. 10a.

In sum, certiorari should be granted in view of the plain conflict between the decision below and this Court's decision in *Neely*.

II. THE COURT OF APPEALS ADOPTED JUSTICE BLACK'S DISSENT IN *NEELY* — WHICH THIS COURT EXPLICITLY REJECTED

The court of appeals' decision effectively rejected this Court's majority opinion in *Neely*, and instead adopted the interpretation of Rule 50(d) urged by Justice Black's *dissent* in that case.

First: In *Neely*, Justice Black concluded that the majority had erred by ruling that the "verdict winner should have to claim his right to a new trial in the Court of Appeals or lose it." 386 U.S. at 337 (Black, J., dissenting). The court below echoed Justice Black's conclusion, claiming that "*Neely* . . . does not dictate that an appellate court's mandate must be read to prohibit a district court from granting a new trial unless the appellate court has specifically authorized it to do so." App. 11a.

Second: The court of appeals here adopted not only the result urged by Justice Black but also his reasoning. Justice Black similarly viewed

the "issue of whether a new trial is justified" as "a factual issue," concluding that "the trial court is the more appropriate tribunal to determine it." 386 U.S. at 337 (Black, J., dissenting). Likewise, the court here stated that in most circumstances, the trial court should make the new-trial determination in the first instance. App. 13a. Justice Black's discomfort with the rule requiring that a "verdict winner should have to claim his right to a new trial in the Court of Appeals or lose it" (386 U.S. at 337 (Black, J., dissenting)), was echoed also in the court of appeals' rejection of a "rule requiring all possible grounds for a new trial to be presented to the reviewing court, no matter how tenuous their connection to the issues on appeal." App. 10-11a.

Finally: Both Justice Black and the panel sought support for their construction of Rule 50(d) from *Weade v. Dichmann, Wright, & Pugh, Inc.*, 337 U.S. 801 (1949), a case that preceded the adoption of Rule 50(d) by almost 15 years. In *Weade*, this Court "modified a Court of Appeals decision directing entry of JNOV because there were 'suggestions in the complaint and evidence' of an alternative theory of liability which had not been passed upon by the jury and therefore which might justify the grant of a new trial." *Neely*, 386 U.S. at 325. Because Rule 50(d) did not exist at the time, the Court in *Weade* had no occasion to discuss whether the petitioner-plaintiff was required to secure a new trial or remand from the court of appeals. Even more fundamentally, though, *Weade* simply does not address the court of appeals' authority on a *second* appeal. At best, it stands only for the proposition that on direct appeal, the court of appeals (or the Supreme Court) may under appropriate circumstances provide for further proceedings in the district court.

The court of appeals' effective adoption of Justice Black's dissent in *Neely* thus warrants this Court's review. It is not for the lower courts to reevaluate established Supreme Court precedent and reject it in favor of a dissenting Justice's approach. Regardless of whether the court of appeals might have preferred Justice Black's view to that of the *Neely* majority, the court of appeals cannot properly decide anew a matter that the Court has long since put to rest. As the Court noted in *Rivers v. Roadway Express, Inc.*, 511 U.S. 298 (1994), "once the

[Supreme] Court has spoken, it is the duty of other courts to respect that understanding of the governing rule of law." *Id.* at 312.

III. THIS CASE PRESENTS AN IMPORTANT AND RECURRING ISSUE OF FEDERAL LAW THAT SHOULD BE IMMEDIATELY RESOLVED BY THIS COURT

In addition to the clear conflict with this Court's controlling decision in *Neely*, this Court's immediate review is warranted because of the important and recurring nature of the issue presented.

The proper application of Rule 50(d) affects important aspects of trial and appellate practice in all of the federal courts of appeals. Under the construction of Rule 50(d) adopted by the court of appeals in this case, a court of appeals' order of reversal without remand will lead to further proceedings in the district court. New issues, therefore, will always be raised in the district court, post-appeal, even in the absence of a remand, so long as the court of appeals "did not dispose of" such issues in its opinion (App. 5a) and on the first appeal the court of appeals is to "dispose of" those issues only if it is not an "undue burden" for the appellee to raise them and the record allows the court to make "an informed judgment" on the issue. The court of appeals' decision thus allows a verdict-winner to "lay low" on appeal, keeping alternate theories of liability hidden from sight unless and until appellate reversal, at which time these unraised and unbriefed issues can be sprung upon the trial court in a new-trial motion. Under this construction of the Rule, an appellant's burden would be transformed from addressing the specific theory of liability to addressing *every possible theory* of liability, raised or not. The court of appeals' construction of Rule 50(d), which imposes these enormous burdens upon litigants and courts, is thus wholly contrary to the basic principles underlying the Federal Rules of Civil Procedure — that they "be construed and administered to secure the just, speedy, and inexpensive determination of every action." Fed. R. Civ. P. 1.

Even though Rule 50(d) is applicable in every Circuit, it is particularly important in cases that are appealed to the Court of Appeals for the Federal Circuit. As this Court has observed, patent litigation is extensive and expensive: "[P]atent litigation is a very

costly process," and cases that go to trial "seem to take an inordinate amount of trial time." *Blonder-Tongue Labs., Inc. v. University of Illinois Foundation*, 402 U.S. 313, 334, 336-37 (1971). Under the court of appeals' approach, patent litigation (such as this "lengthy and expensive" case (App. 2a) will become even more extensive and expensive. For example, a plaintiff in infringement cases may try his first case primarily under a literal-infringement theory, strategically deemphasizing the doctrine of equivalents argument, and if the plaintiff secures a judgment of literal infringement and if appellate review results in reversal under Rule 50(d) (as it often does in view of the Federal Circuit's *de novo* review of patent claim construction, *see, e.g., Cybor Corp. v. FAS Technologies, Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998)), the plaintiff may then seek a new trial under the unraised equivalents theory — a theory that is potentially present in every infringement case.[7] There are a whole variety of other patent issues which could similarly result in successive trials under the decision below.

Because of the very real potential for such mischief that the court of appeals' decision presents, this Court's immediate review is warranted. Litigants — including parties in cases that are subject to the Federal Circuit's exclusive appellate jurisdiction — will be making tactical decisions in the trial courts and on appeal based on the plainly erroneous decision of the court of appeals here. In view of the expense of trials, particularly the "staggering" expense of patent suits,[8] it is

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[7] *See, e.g., American Permahedge, Inc. v Barcana, Inc.*, 105 F.3d 1441, 1445 (Fed. Cir. 1997) ("Even if literal infringement does not lie, the accused product may still infringe under the doctrine of equivalents"); *see also Hilton Davis Chemical Co. v. Warner-Jenkinson Corp.*, 62 F.3d 1512, 1563 (Fed. Cir. 1995) (Nies, J., dissenting), *reversed and remanded*, 117 S. Ct. 1040 (1997) (under Federal Circuit precedent "infringement by equivalents [is] the automatic second step when literal infringement is not proved").

[8] *Picard v. United Aircraft Corp.*, 128 F.2d 632, 641 (2d Cir. 1942) (Frank, J., concurring). Judge Frank wrote these words in a day when few patent suits were tried to juries. Today, almost 60 percent of patent cases are tried to juries, which results in even greater expense to litigants and to the judiciary.

(continued...)

critical that the court of appeals' decision be reviewed immediately, and reversed.

In view of the court of appeals' failure to heed a controlling decision of this Court construing a widely applicable federal rule of procedure, this Court may wish to consider summary reversal (*see* Sup. Ct. R. 16.1), as it has done in similar circumstances where a lower court has failed to follow this Court's precedents. In *Thurston Motor Lines v. Jones K. Rand, Ltd.*, 460 U.S. 533 (1983) (per curiam), for example, the court of appeals failed to follow a precedent of this Court. In reversing and remanding the case, this Court found "[t]he Court of Appeals' attempt to distinguish" that prior precedent "wholly unconvincing," commenting that "[n]eedless to say, only this Court may overrule one of its precedents. Until that occurs, [the precedent] is the law, and the decision below cannot be reconciled with it." *Id.* at 534, 535. In particular, this Court has deemed it appropriate to summarily reverse courts of appeals that fail to follow its precedent concerning judicial procedure.[9]

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[8] (...continued)
See Hilton Davis Chem. Co. v. Warner-Jenkinson Corp., 62 F.3d at 1567 n. 19 (Nies, J., dissenting).

[9] *Stutson v. United States*, 516 U.S. 193, 194 (1996) (per curiam) (reversing appellate court for failing to apply the correct understanding "to the Rule 4(b) criminal appeal context"); *Temple v. Synthese Corp.*, 498 U.S. 5, 7 (1990) (per curiam) (reversing the Fifth Circuit for failing to recognize that "[i]t has long been the rule" that Rule 19 did not require permissive joinder of defendants); *Buchanan v. Stanships*, 485 U.S. 265 (1988) (per curiam) (reversing a court of appeals for failure to correctly construe Fed. R. App. P. 4(a)(4)); *Dennison Manufacturing v. Panduit Corp.*, 475 U.S. 809, 810 (1986) (per curiam) (summary reversal for failure to consider Fed. R. Civ. P. 52(a)); *Baldwin County Welcome Ctr. v. Brown*, 466 U.S. 147, 152 (1984) (per curiam) ("[p]rocedural requirements [such as Fed. R. Civ. P. 3 and 8]. . . for gaining access to the federal courts are not to be disregarded"); *Wyrick v. Fields*, 459 U.S. at 49 (reversing the Eighth Circuit because it "misapplied [a case of this Court] and created an unjustified *per se* rule").

CONCLUSION

For the foregoing reasons, the petition for certiorari should be granted. The Court may wish to consider summary reversal of the Federal Circuit's decision.

Respectfully submitted,

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August 1998

APPENDIX

UNITED STATES COURT OF APPEALS
FEDERAL CIRCUIT

EXXON CHEMICAL PATENTS, INC.,
Exxon Corporation and Exxon Research
& Engineering Company,
Plaintiffs-Appellants,

v.

THE LUBRIZOL CORPORATION
Defendant-Appellee,

No. 97-1021.
March 4, 1998

Before PLAGER, CLEVENGER, and BRYSON, Circuit Judges.

BRYSON, Circuit Judge

Exxon Chemical Patents, Inc., Exxon Corporation, and Exxon Research & Engineering Co. (collectively "Exxon") appeal from the district court's denial of their motion for a new trial in a patent infringement action that Exxon brought against The Lubrizol Corporation. Exxon filed the motion for a new trial on infringement under the doctrine of equivalents after this court reversed an earlier jury verdict in Exxon's favor on literal infringement. *See Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 35 USPQ2d 1801 (Fed. Cir. 1995), *cert. denied*, 518 U.S. 1020, 116 S. Ct. 2554, 135 L. Ed. 2d 1073 (1996). The district judge interpreted our mandate on the prior appeal as prohibiting him from granting a new trial, and he therefore denied Exxon's motion. Because our prior opinion was confined to the issue of literal infringement, we hold that the mandate did not deprive the district court of the power to grant Exxon's motion for a new trial on infringement under the doctrine of equivalents. We therefore vacate the denial of Exxon's motion for a new trial and remand to the district court for further consideration of that motion.

I

This appeal is another chapter in a lengthy and expensive patent litigation between Exxon and Lubrizol. Exxon is the owner of U.S. Patent No. 4,867,890, which is directed to a lubricant for automobile engines. Exxon filed suit against Lubrizol for patent infringement on the day the patent issued, September 19, 1989. Following extensive discovery and a ten-day trial, the jury returned a verdict in Exxon's favor. The jury verdict addressed only literal infringement. Exxon had deleted its proposed jury instruction on infringement under the doctrine of equivalents following the decision of the district judge to adopt Exxon's proposed claim construction. After the district court denied Lubrizol's motion for judgment as a matter of law, Lubrizol appealed to this court.

On appeal, this court rejected the claim construction proposed by Exxon and adopted a construction based on the one proposed by Lubrizol. *See Exxon Chem. Patents, Inc.*, 64 F.3d at 1557-58, 35 USPQ2d at 1804-05. The court held that under the correct claim interpretation no reasonable jury could have found that Lubrizol's products literally infringed Exxon's patent. Accordingly, the court reversed the judgment of the district court. 64 F.3d at 1560, 35 USPQ2d at 1806. Judge Nies dissented from the decision as to the proper claim construction and from the decision to reverse the judgment without remanding the case for a new trial. 64 F.3d at 1563-70, 35 USPQ2d at 1808-14 (Nies, J., dissenting).

The majority and dissenting opinions briefly addressed the question whether Exxon should be granted a new trial on infringement under the doctrine of equivalents. Judge Nies argued that Exxon was entitled to a new trial in light of the new claim construction adopted by the panel. *See* 64 F.3d at 1570, 35 USPQ2d at 1814 (Nies, J., dissenting). The majority responded in a footnote, stating that the "question of whether Exxon is now entitled to a jury trial on infringement under the doctrine of equivalents" had not been briefed or argued, and that the panel therefore "express[ed] no view on that question." 64 F.3d at 1555 n. 1, 35 USPQ2d at 1802 n. 1.

Exxon petitioned for rehearing. Although Exxon's petition was devoted to arguing the merits of its preferred claim construction,

Exxon also requested, "out of an abundance of caution," that the panel clarify its opinion regarding Exxon's right to move for a new trial on doctrine-of-equivalents infringement. Exxon's petition was denied without the requested clarification.

Exxon subsequently filed a motion in the district court for a new trial on infringement under the doctrine of equivalents. The district judge denied the motion in a one-page order, stating that the court's decision left him with "no authority to grant a new trial." Exxon now appeals from that order, arguing that although our reversal of the jury verdict foreclosed any further proceedings relating to literal infringement, our mandate did not preclude the district court from entertaining a motion for a new trial on the issue of infringement under the doctrine of equivalents.

II

A

This court's opinion in the prior appeal construed the claims of the patent and analyzed the issue of literal infringement. At the conclusion of the analysis of those issues, the court reversed the jury verdict and held that Lubrizol was "entitled to a judgment of noninfringement as a matter of law." The court further stated that its reversal was "without remand for a second trial."

Those statements in the court's opinion referred only to the issue of literal infringement. Any suggestion that the court meant to address the issue of infringement under the doctrine of equivalents is put to rest by the first footnote of the opinion, in which the court explained that the judgment under review was "limited to literal infringement." 64 F.3d at 1555 n. 1, 35 USPQ2d at 1802 n. 1. As to whether Exxon would be entitled to a new trial on infringement under the doctrine of equivalents, the court noted that the issue was not briefed or argued and that the panel therefore "express[ed] no view on that question." In light of that statement, it is clear that this court's mandate was not intended to address the question whether Exxon would be entitled to a new trial under the doctrine of equivalents. Under the general rule that an appellate mandate governs only that which was actually decided, the district court was therefore free to consider Exxon's

motion for a new trial. *See Biggins v. Hazen Paper Co.*, 111 F.3d 205, 209 (1st Cir.), *cert. denied*, ___ U.S. ___, 118 S. Ct. 373, 139 L. Ed.2d 290 (1997); *Exxon Corp. v. United States*, 931 F.2d 874, 877-78 (Fed. Cir. 1991).

Even without the express disclaimer in the court's opinion, it would be incorrect to conclude that the court's mandate encompassed an issue that was not presented to the court. Although in some cases issues not explicitly addressed by an appellate court may nonetheless be decided by necessary implication, *see* 18 James Wm. Moore, *Moore's Federal Practice* § 134.23[4] (3d ed. 1997), this is not one of those cases. This court's opinion dealt only with the issues of claim construction and literal infringement. Resolution of those two issues did not require consideration of the doctrine of equivalents.

Our recent decision in *Laitram Corp. v. NEC Corp.*, 115 F.3d 947, 42 USPQ2d 1897 (Fed. Cir. 1997), is instructive here. After Laitram won a jury verdict in a patent infringement suit, NEC filed motions for judgment as a matter of law (JMOL) on the issues of infringement, willfulness, and claim identicality. 115 F.3d at 949, 42 USPQ2d at 1899. The district court granted the motion on infringement and denied the other two JMOL motions as moot. On appeal, this court reversed the JMOL order and remanded "with instructions to reinstate the jury verdict." *Laitram Corp. v. NEC Corp.*, 62 F.3d 1388, 1395, 36 USPQ2d 1206, 1211 (Fed. Cir. 1995). On remand, the district court assumed that the mandate required it to reinstate the entire jury verdict and that NEC's outstanding JMOL motions must have been decided by implication. The district court therefore denied NEC's Rule 60(b) motion for relief from judgment. On appeal from that decision, this court reversed, finding that the mandate from the earlier opinion covered only the infringement issue. *Laitram Corp.*, 115 F.3d at 951-53, 42 USPQ2d at 1900-02. Because each of the JMOL motions presented alternative grounds for overturning the verdict in Laitram's favor, the court held that NEC was entitled to a ruling on the merits of those grounds in the district court after the original judgment was overturned.

Although this case involves an appeal from the denial of a JMOL motion, the same principle is applicable: in determining that Lubrizol

did not literally infringe Exxon's patent, this court did not dispose of Exxon's doctrine-of- equivalents infringement claim; in fact, the court made clear that it was not addressing that issue. The mandate therefore cannot be interpreted as resolving the doctrine-of-equivalents claim, and for that reason the mandate does not foreclose the district court from addressing it.

B

Contrary to Lubrizol's suggestion, Exxon cannot be charged with having abandoned its doctrine-of-equivalents theory of liability by not submitting it to the jury or raising it on the previous appeal. Once the district judge construed the claim language in Exxon's favor, the doctrine-of- equivalents issue in the case became moot. Exxon could not realistically be expected to request alternative jury instructions asking for an advisory verdict on whether the patent would be infringed under the doctrine of equivalents on Lubrizol's proposed claim construction. Nor could Exxon, as appellee, have been expected to defend the judgment in its favor on the basis of a theory of liability that was never given to the jury. *See Laitram Corp.*, 115 F.3d at 954, 42 USPQ2d at 1902-03. The question whether there could be doctrine-of-equivalents infringement under the claim construction adopted by this court became a critical issue in the case only after this court's decision on appeal. For that reason, this court did not address the merits of Exxon's claim that it is entitled to a new trial on infringement under the doctrine of equivalents, and the district court therefore erred in concluding that it was barred by this court's mandate from considering Exxon's new trial motion. *See Laitram Corp.*, 115 F.3d at 952, 42 USPQ2d at 1900-01 (court of appeals did not decide by implication issues that were moot in light of the district court's disposition of the case, were unripe for appellate review, and were not presented on appeal).

III

Lubrizol argues that because Exxon asked for clarification of its right to move for a new trial on infringement under the doctrine of equivalents in its rehearing petition and got no response from this court, the court's denial of the rehearing petition reflects a decision that Exxon was not entitled to a new trial.

No inferences can be drawn from the court's silence in response to Exxon's request for clarification. Courts normally do not respond to petitions for rehearing and it would be a mistake to conclude that a court's non-response to an argument made in a rehearing petition necessarily means that the court has rejected that argument on the merits. The inference that this court meant to rule on the merits of the new trial issue is particularly suspect in this case, since all that was presented to the court was a request for clarification. The court's failure to grant a request for clarification could well reflect the view that clarification was not required, rather than an intention to reject on the merits the legal argument on which Exxon sought clarification. *See Laitram Corp.*, 115 F.3d at 951, 42 USPQ2d at 1900 (court of appeals' denial of request for clarification carries "no inferential weight").

Lubrizol cites to *Fine v. Bellefonte Underwriters Insurance Co.*, 758 F.2d 50 (2d Cir. 1985), for the proposition that an appellate court must be presumed to have considered arguments made to it on appeal. The *Fine* court made that statement in the course of rejecting an attempt to reopen an earlier mandate based on a previous panel's alleged failure to make a required finding. *Fine* relied on *NLRB v. Brown & Root, Inc.*, 206 F.2d 73 (8th Cir. 1953). Examination of *Brown & Root*, however, reveals the inapplicability of the principle to this case. *Brown & Root* explained that the purpose of rehearing petitions is "to direct the Court's attention to some material matter of law or fact which it has overlooked in deciding a case, and which, had it been given consideration, would probably have brought about a different result." *Id.* at 74. As explained earlier, the doctrine of equivalents was not at issue in the previous appeal and was immaterial to the decision on literal infringement. The court's silence with respect to Exxon's clarification request therefore does not carry a presumption of rejection on the merits.

Other courts have agreed that the denial of a rehearing petition does not constitute a decision on the merits of whether the losing party may obtain a new trial on remand. In *United States v. Cote*, 51 F.3d 178 (9th Cir. 1995), the court of appeals reversed the defendant's conviction, after which the government filed a petition for rehearing requesting that the court modify its opinion to clarify that the

government could move for a new trial in the district court. The court of appeals did not modify its opinion, and the defendant then argued that the Ninth Circuit's silence constituted a decision on the merits of the government's request. *See Cote*, 51 F.3d at 181. The Ninth Circuit rejected that argument, ruling that its summary denial of the rehearing petition did not imply any substantive judgment on the merits of the government's argument in the petition. The court found support for its conclusion in the Eleventh Circuit's decision in *Luckey v. Miller*, 929 F.2d 618, 621-22 (11th Cir. 1991), in which the court held that a "summary denial of rehearing en banc is insufficient to confer any implication or inference regarding the court's opinion relative to the merits of a case." *Cf. Gough v. Rossmoor Corp.*, 533 F.2d 453, 454-55 (9th Cir. 1976) (denial of rehearing petition containing motion for new trial did not preclude district court from considering the motion on remand). We agree with that principle and therefore conclude that Exxon's unsuccessful request for clarification in its petition for rehearing does not require that this court's mandate be read to resolve the question of Exxon's entitlement to a new trial under the doctrine of equivalents.

IV

Quite apart from whether this court's mandate was intended to exclude a new trial under the doctrine of equivalents, Lubrizol contends that Exxon's failure in the prior appeal to secure a remand for consideration of a new trial on that theory of liability bars it from presenting its request for a new trial to the district court. As support for that position, Lubrizol relies on the Supreme Court's decision in *Neely v. Martin K. Eby Construction Co.*, 386 U.S. 317, 87 S. Ct. 1072, 18 L. Ed.2d 75 (1967). According to Lubrizol, Neely holds that a verdict-winner who wishes to obtain a new trial in the event of a reversal on appeal is required to show grounds for a new trial in its brief on appeal or move for a new trial on rehearing in the court of appeals. Thus, in Lubrizol's view, a verdict-winner who loses on appeal cannot obtain a new trial by waiting until the case returns to the district court and moving for a new trial at that time.

A

We do not read *Neely* as establishing the broad rule that Lubrizol advocates. In Neely, the plaintiff won a jury verdict in a tort action, and the defendant unsuccessfully sought judgment n.o.v. on the ground that the evidence was insufficient to support the verdict. The court of appeals, however, reversed the judgment of the district court and remanded "with instructions to dismiss the action." The plaintiff sought certiorari, contending that the court of appeals' action violated Rule 50(d), Fed.R.Civ.P., and the Seventh Amendment. According to the plaintiff, the court of appeals was required to remand the case to the district court to allow that court to determine whether to grant a new trial.

The Supreme Court held that it was not error for the court of appeals to direct entry of judgment for the defendant rather than remanding the case for the district court to consider whether to grant a new trial. The Court noted that there were many circumstances in which it would be error for a court of appeals to direct the entry of final judgment for the defendant, but the Court refused to adopt "an ironclad rule that the court of appeals should never order dismissal or judgment for defendant when the plaintiff's verdict has been set aside on appeal." 386 U.S. at 326, 87 S. Ct. at 1078.

As an example of a case in which it would be improper for the court of appeals to order judgment notwithstanding the verdict, the Court pointed to *Weade v. Dichmann, Wright & Pugh, Inc.*, 337 U.S. 801, 69 S. Ct. 1326, 93 L. Ed. 1704 (1949), in which the Court "modified a Court of Appeals decision directing entry of judgment *n.o.v.* because there were 'suggestions in the complaint and evidence' of an alternative theory of liability which had not been passed upon by the jury and therefore which might justify the grant of a new trial." 386 U.S. at 325, 87 S. Ct. at 1078. In that case and others, the Court observed, "an appellate court may not order judgment *n.o.v* . . . . where the record reveals a new trial issue which has not been resolved." The concern in cases such as that one, the Court added, "has been to protect the rights of the party whose jury verdict has been set aside on appeal and who may have valid grounds for a new trial, some or all of which

should be passed upon by the district court, rather than the court of appeals." *Id.*

The Court referred to two categories of cases in which it would sometimes be appropriate for the court of appeals to enter judgment. First, where an appellant shows a defect in subject matter jurisdiction or entitlement on a dispositive issue of law, "there can be no reason whatsoever to prevent the court of appeals from ordering dismissal of the action or the entry of judgment for the defendant." 386 U.S. at 327, 87 S. Ct. at 1079. The second, more complicated category that the Court identified was the class of cases turning on the sufficiency of the evidence at trial.

Addressing the situation in which a court of appeals sets aside a jury's verdict because the evidence was insufficient to send the case to the jury, the Court noted that even in that class of cases, there are some instances in which the plaintiff is entitled to a new trial rather than having a final judgment entered against it. Nonetheless, the Court observed, the new trial issues presented by those cases are typically ones that the district court has no special advantages or competence in dealing with, and thus the plaintiff may bring those issues directly to the court of appeals without moving for a new trial in the district court. In such cases, the Court noted, "the record in the court of appeals will very likely be a full one." 386 U.S. at 328, 87 S. Ct. at 1080. The Court therefore concluded that in that class of cases, there is "no substantial reason why the appellee should not present the matter to the court of appeals, which can if necessary remand the case to permit initial consideration by the district court." *Id.*

In such cases, the Court explained, if the appellee presents the grounds for a new trial in its brief or petition for rehearing, the court of appeals "may make final disposition of the issues presented, except those which in its informed discretion should be reserved for the trial court." 386 U.S. at 329, 87 S. Ct. at 1080. And even if the appellee presents no new trial issues in its brief or petition for rehearing, the court of appeals may order a new trial on its own motion or refer the question to the district court. *Id.* The Court therefore determined that in light of the various ways that an appellee could protect its right to

seek a new trial, there was no reason to bar the court of appeals from ordering the dismissal of the action in an appropriate case.

Turning to the facts of the case before it, the Court noted that the issue before the court of appeals was the sufficiency of the evidence and that the petitioner, as appellee, had "suggested no grounds for a new trial in the event her judgment was reversed, nor did she petition for rehearing in the Court of Appeals, even though that court had directed a dismissal of her case." 386 U.S. at 329, 87 S. Ct. at 1080. Nor did the petitioner suggest that the record was insufficient to present any new trial issue or that any other reason required a remand to the district court. Indeed, the Court pointed out, the petitioner had stated in her brief in the court of appeals that the case "was fairly tried and the jury was properly instructed." 386 U.S. at 329, 87 S. Ct. at 1080. For those reasons, the Supreme Court concluded that the court of appeals did not commit legal error when it directed the dismissal of the petitioner's action following the court's reversal of the jury verdict in her favor.

Neely thus stands for the proposition that in an appropriate case a court of appeals may direct that judgment be granted against an appellee without permitting the appellee to seek a new trial from the district court. The earlier panel decision in this case did exactly that with respect to Exxon's literal infringement claim. But the fact that the appellate court has the power to foreclose further proceedings in the district court does not imply that its judgments have that effect even when the court does not so direct. *Neely* explicitly tied the exercise of the appellate court's power to direct the entry of final judgment against the verdict-winner to the court's ability to make an informed judgment based on the record before it. Only in those circumstances would a decision by the court of appeals directing the entry of final judgment "serve the purpose of Rule 50 to speed litigation and to avoid unnecessary retrials." 386 U.S. at 326, 87 S. Ct. at 1078.

The *Neely* Court noted that Rule 50(d) was "not intended to 'alter the effects of a jury verdict or the scope of appellate review.' " 386 U.S. at 324, 87 S. Ct. at 1078. Thus, Neely's discussion of the power of appellate courts did not implicitly adopt a new rule requiring all

possible grounds for a new trial to be presented to the reviewing court, no matter how tenuous their connection to the issues on appeal. *Neely* likewise does not dictate that an appellate court's mandate must be read to prohibit a district court from granting a new trial unless the appellate court has specifically authorized it to do so. The primary question in this case, as in all such cases, is what the appellate court's mandate left for the district court to do. In this case, as we have indicated, we think it clear that our mandate left the district court free to consider Exxon's motion for a new trial on infringement under the doctrine of equivalents.

The Fifth Circuit's decision in *Conway v. Chemical Leaman Tank Lines, Inc.*, 644 F.2d 1059 (5th Cir. 1981), illustrates the proper application of this principle. Conway, the plaintiff in a tort suit, raised two grounds in its motion for a new trial following an adverse jury verdict. The district court granted the motion, relying on only one of the two grounds. Conway's verdict in the subsequent trial was reversed on appeal because the grant of the new trial was erroneous. *See Conway v. Chemical Leaman Tank Lines, Inc.*, 610 F.2d 360 (5th Cir. 1980). The Fifth Circuit's reversal was accompanied by remand instructions "to enter judgment upon that verdict for the defendant." 610 F.2d at 367. Under Lubrizol's interpretation of *Neely*, Conway's case would have ended at that point because her alternative ground for a new trial was not presented to the appellate court. Instead, Conway renewed her motion for a new trial in the district court, relying on the second of her two original grounds, and the district court granted the motion. On interlocutory review, the court of appeals affirmed. The court explained that Conway had timely raised the second ground for a new trial and that the previous appeal did not prohibit the district court from considering an issue that was never submitted to or decided by the appellate court. 644 F.2d at 1062. As in *Conway*, this court's decision on the literal infringement issue did not prevent the district court from considering a motion for a new trial on infringement under the doctrine of equivalents.

B

Neely is distinguishable from this case in another important respect. In the fact situation presented in *Neely*, the Supreme Court found that

the burden on the appellee to raise its new trial issues before the court of appeals was small. In other settings, the Court recognized, the burden would be much greater, and in those cases it would be inappropriate for the court of appeals to direct the dismissal of the appellee's complaint without giving the appellee an opportunity to present its new trial arguments to the district court. This case clearly falls in the latter category.

Rather than promoting judicial economy, the rule that Lubrizol proposes would place undue additional burdens both on the parties and on the appellate court. An appellee cannot be expected to preserve all issues that might conceivably give rise to a motion for a new trial, including those issues unrelated to the subject of the appeal. In a case that turns on claim construction, Lubrizol's rule would require an appellee to anticipate every possible claim construction that the appellate court might adopt and put forth grounds for a new trial under each possible claim construction. As a practical matter, the first opportunity that a party in Exxon's position would have to make its arguments for a new trial would be in a petition for rehearing, and rehearing petitions are normally not a suitable vehicle for making new arguments to the appellate court. *See Pentax Corp. v. Robison*, 135 F.3d 760 (Fed.Cir. 1998). It thus seems clear to us that this case is a paradigmatic example of the kind of case in which it would be improper for an appellate court to dispose of the new trial issues, and in which the proper forum for raising the new trial issue in question is the district court. As in the *Weade* case that the Court discussed in *Neely*, Exxon did not have to raise its doctrine-of-equivalents theory of liability in the first appeal in order to be entitled to seek a new trial on that theory in the district court, because the doctrine-of- equivalents theory constituted "an alternative theory of liability which had not been passed upon by the jury and therefore which might justify the grant of a new trial." 386 U.S. at 325, 87 S. Ct. at 1078.

We do not mean to imply that the motion for a new trial presented to the district court in this case is necessarily meritorious. Assessing the merits of the new trial motion is for the district court. We are unequipped on this record to make any substantive judgments regarding the merits of Exxon's doctrine-of-equivalents infringement claim. For that reason, we do not accept Lubrizol's invitation to affirm

the district court's order on the ground that Exxon has not shown a basis for a new trial on its doctrine-of-equivalents theory; we leave to the district court the questions whether Exxon is entitled to a new trial on that theory and whether there is any procedural flaw in Exxon's motion that would prevent the district court from considering the motion on its merits. We simply hold that our prior mandate did not deprive the district court of the authority to entertain the motion and that nothing in the Supreme Court's decision in *Neely* compels a contrary conclusion.

V

As a final matter, we address the significance of the formal judgment issued with the earlier *Exxon* opinion. The operative language of the judgment consisted of the single word "reversed." Lubrizol attaches significant weight to the omission of the words "and remanded" from that judgment. According to Lubrizol, a judgment of reversal, standing alone, precludes any additional proceedings in the district court, and that only a judgment expressly providing for a remand contemplates that the district court still has tasks to fulfill.

Interpretation of an appellate mandate entails more than examining the language of the court's judgment in a vacuum. See Fed. R.App. P. 41(a) (appellate court's mandate includes both the judgment and the opinion of the court). As an initial matter, every appellate court judgment vests jurisdiction in the district court to carry out some further proceedings. In some cases, those further proceedings may be purely ministerial, as when a judgment for the plaintiff is reversed and the only matters that remain for the district court are to dismiss the complaint and enter the judgment in the docket. Frequently, however, the disposition of a case in the court of appeals will require the district court to undertake more significant proceedings. In either case, the nature of the district court's remaining tasks is discerned not simply from the language of the judgment, but from the judgment in combination with the accompanying opinion. *See In re Sanford Fork & Tool Co.*, 160 U.S. 247, 256, 16 S. Ct. 291, 293, 40 L. Ed. 414 (1895); *Laitram Corp.*, 115 F.3d at 952, 42 USPQ2d at 1901.

A case from the Supreme Court dealing with the mandate rule illustrates the point perfectly. In *Sprague v. Ticonic National Bank*,

307 U.S. 161, 59 S. Ct. 777, 83 L. Ed. 1184 (1939), the Court addressed the scope of its mandate from an earlier decision. The district court had found that it lacked the power to award attorneys' fees because the Supreme Court's opinion did not specifically provide for such relief. The Court held that the district court had erred because attorneys' fees were not at issue on the original appeal, and that the district court was free to consider whether the award of fees was appropriate. *Id.* at 168-69, 59 S. Ct. at 780-81. Despite the focus on the mandate rule in *Sprague*, however, the judgment was simply "reversed," rather than "reversed and remanded." *Id.* at 170, 59 S. Ct. at 781-82. That omission notwithstanding, the Court's opinion clearly anticipated that the district court would have additional work to do in the case. *Sprague* thus demonstrates that a judgment that does not specifically provide for a remand is not necessarily incompatible with further proceedings to be undertaken in the district court.

The Ninth Circuit recently dealt with the same issue in *United States v. Cote*, 51 F.3d 178 (9th Cir. 1995), which we discussed earlier. In that case, the defendant was convicted of tax fraud, but his conviction was overturned on appeal because of trial error. The appellate court's judgment ordered the conviction "reversed," but did not explicitly remand the case for further proceedings. In its petition for rehearing, the government asked the court to modify its opinion to include a remand to the district court. The petition was denied without comment or any change in the judgment. When the government moved in district court for a new trial, the district court judge denied the motion on the ground that the appellate court's judgment deprived it of the authority to order a new trial.

On appeal from the denial of the new trial motion, the Ninth Circuit reversed. The court held that the absence of a specific remand directive did not bar the district court from ordering a new trial, as long as the new trial would not be inconsistent with the mandate of the earlier opinion as gleaned from the judgment together with the accompanying opinion. 51 F.3d at 181- 82.

Cote reaffirms the general rule that, following appellate disposition, a district court is free to take any action that is consistent with the appellate mandate, as informed by both the formal judgment issued by

the court and the court's written opinion. The exclusion of an explicit remand in the first *Exxon* opinion was correct as it pertained to the issue on appeal, *i.e.*, literal infringement, and the mandate prohibited the district court from granting a new trial on that issue. Read in light of the accompanying opinion, however, the judgment did not deprive the district court of authority to consider Exxon's motion for a new trial on infringement under the doctrine of equivalents.

VACATED and REMANDED.

UNITED STATES COURT OF APPEALS
FEDERAL CIRCUIT

EXXON CHEMICAL PATENTS, INC.,
Exxon Corporation and Exxon Research
& Engineering Company,
Plaintiffs-Appellants,

v.

THE LUBRIZOL CORPORATION
Defendant-Appellee,

97-1021

ORDER

A combined petition for rehearing and suggestion for rehearing in banc having been filed by the APPELLEE, and a response thereto having been invited by the court and filed by the APPELLANT, and the petition for rehearing having been referred to the panel that heard the appeal, and thereafter the suggestion for rehearing in banc and response having been referred to the circuit judges who are in regular active service,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, DENIED and it is further

ORDERED that the suggestion for rehearing in banc be, and the same hereby is, DECLINED.

The mandate of the court will issue on May 5, 1998.

Circuit Judge SCHALL did not participate in the vote.

FOR THE COURT,
JAN HORBALY, CLERK

By /s/ Alex Van Veen
Alex Van Veen
Staff Law Clerk

April 28, 1998

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

EXXON CHEMICAL PATENTS, INC.,
EXXON CORPORATION, and
EXXON RESEARCH & ENGINEERING
COMPANY,
Plaintiffs

VS.

THE LUBRIZOL CORPORATION
Defendant.
CIVIL ACTION NO. H-89-3203

ORDER

Before the Court is Exxon's motion for new trial. Exxon claims it is entitled to a new trial on the question of whether Lubrizol infringed Exxon's patents under the doctrine of equivalents. The Federal Circuit reversed this Court's decision without remand for further proceedings and plainly stated that "remand for a second trial is improper." *Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1561 (Fed. Cir. 1995), *cert. denied*, ___ U.S. ___, 116 S. Ct. 2554 (1996). Furthermore, the Federal Circuit declined Exxon's motion for rehearing to clarify its decision. Consequently, the Court finds no authority to grant a new trial. It is therefore

ORDERED that Exxon's motion for new trial (entry no. 641) is DENIED.

Signed this 16th day of August, 1996 at Houston, Texas.

/s/ Norman W. Black
NORMAN W. BLACK
CHIEF JUDGE

**UNITED STATES COURT OF APPEALS,
FEDERAL CIRCUIT**

**EXXON CHEMICAL PATENTS, INC., Exxon Corporation and Exxon Research and Engineering Co.,
Plaintiffs-Appellees,**

v.

LUBRIZOL CORPORATION, Defendant-Appellant.

Nos. 93-1275, 94-1309
February 23, 1996.

ORDER

A combined petition for rehearing and suggestion for rehearing in banc having been filed by the appellee, and a response thereto having been invited by the court and filed by the appellant, and the petition for rehearing having been referred to and acted upon by the panel that heard the appeal, and, thereafter, the suggestion for rehearing in banc, the response and a reply to the response, having been referred to the judges authorized to request a poll whether to rehear the appeal in banc, and a poll having been requested, taken, and failed, it is

ORDERED that the petition for rehearing be, and the same hereby is DENIED; and it is further

ORDERED that the suggestion for rehearing in banc be, and the same hereby is, DECLINED.

Circuit Judge Mayer concurs in a separate opinion.

Circuit Judge Clevenger, with whom Circuit Judge Plager joins, concurs in a separate opinion.

Circuit Judge Newman dissents in a separate opinion.

Chief Judge Archer, Circuit Judge Rich, and Circuit Judge Schall did not participate in the poll.

MAYER, Circuit Judge, concurring.

This is another example of the predicted mischief of *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 34 USPQ2d 1321 (Fed.Cir.), *cert. granted*, ___ U.S ___, 116 S. Ct. 40, 132 L. Ed.2d 921 (1995). Two judges have divined an interpretation of the claim that occurred to no one else in this extensive litigation. None of the parties or the trial court offered the interpretation that these two judges chose, and none of the extensive extrinsic evidence about how those skilled in the art would understand the claim supports it. After *Markman*, apparently the meaning of a claim has very little to do with the parties' theories of the case and the record made in support, and everything to do with what at least two judges here prefer regardless of the record.

CLEVENGER, Circuit Judge, with whom PLAGER, Circuit Judge, joins, concurring in the court's denial of the petition for rehearing in banc.

Because more than twelve thousand pages will separate the decision of the court in this case, found at 64 F.3d 1553 (Fed.Cir. 1995), from the comments of Judges Newman and Mayer, we shall quickly bridge the gap to ease the mind of any concerned reader.

Judge Newman's general views on how to read the claims in suit reduce themselves to a simple proposition. Although Exxon's patent is on a specifically defined chemical product (a "lubricating oil composition suitable as a crankcase lubricant"), Judge Newman treats Exxon's claims differently, as if they were drawn to a formula (or recipe) for making whatever product results from mixing the ingredients named in the formula. Were such the case, Exxon would have won on its proofs in this case. Instead, Exxon sued Lubrizol on a chemical product claim. To win, Exxon had to prove that Lubrizol's product contains, in the specific amounts stated in the patent, the chemicals named in Exxon's patented formula. Although Exxon proved that Lubrizol's product contained the named chemicals, it failed to prove that those chemicals are present in Lubrizol's product in the specific required amounts. So Exxon lost.

The basic claim interpretation theory adopted by the court was put forth by Lubrizol in its defense to Exxon's suit, as explained in the

court's opinion, which amply demonstrates the respects in which our colleagues have misread the opinion and the record in this case.

PAULINE NEWMAN, Circuit Judge, dissenting from the denial of rehearing in banc.

The court's decision in the case of *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 35 USPQ2d 1801 (Fed.Cir. 1995), creates important new law governing the claiming of chemical compositions. Adopted by split panel decision, it is gravely incorrect. It is incorrect as a matter of law, as a matter of chemistry, and as a matter of patent practice. The panel majority's new rule of "claim construction" will cast a cloud upon many thousands of existing patents, and major classes of chemical invention will confront unclear, unnecessary, confusing, expensive, and perhaps impossible scientific requirements.

The panel majority holds that a claim to a chemical formulation composition can not be infringed if there is interaction between any of the ingredients after they are added to the composition, such that any ingredient changes in chemical form or ratio from that listed in the claim. Thus any chemical change or interaction within the composition, even loose "complexing" as appears to happen between ingredients of this composition, renders the claim useless. The panel majority holds that it does not matter that the Lubrizol composition is identical to the claimed composition: the purported changes inside the composition after it is made is held by the panel majority to negate infringement.

This is a new and incorrect rule of claim construction. It is not necessary to state the myriad interactive changes that occur in chemical solutions or dispersions, in order to describe this lubricant formulation clearly and unambiguously. Many thousands of chemical patents are

written in the simple combination style here found fatally wanting. Consider Exxon's claim 1 shown in the margin,[1] a straightforward list

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[1] A lubricating oil composition suitable as a crankcase lubricant in internal combustion engines comprising:

A. a major amount of lubricating oil;

B. a dispersing amount of lubricating oil dispersant selected from the group consisting of:

(1) ashless nitrogen or ester containing dispersant compounds selected from the group consisting of:

(a) oil soluble salts, amides, imides, oxazolines, esters, and mixtures thereof, of long chain hydrocarbon substituted mono- and discarboxylic acids or their anhydrides;

(b) long chain aliphatic hydrocarbons having a polyamine attached directly thereto; and

(c) Mannich condensation products formed by condensing about a molar proportion of long chain hydrocarbon substituted phenol with from about 1 to 2.5 moles of formaldehyde and from about 0.5 to 2 moles of polyalkylene polyamine; wherein said long chain hydrocarbon group is a polymer of a C sub2 to C sub5 monoolefin, said polymer having a molecular weight of from about 700 to about 5000;

(2) nitrogen or ester containing polymeric viscosity index improver dispersants which are selected from the group consisting of:

(a) polymers comprised of C_4 to C_{24} unsaturated esters of vinyl alcohol or of C_3 to C_{10} unsaturated mono- or discarboxylic acid with unsaturated nitrogen containing monomers having 4 to 20 carbons,

(b) copolymers of C_2 to C_{20} olefin with C_3 to C_{10} mono- or discarboxylic acid neutralized with amine, hydroxy amine or alcohols, and

(c) polymers of ethylene with a C_3 to C_{20} olefin further reacted either by grafting C_4 to C_{20} unsaturated nitrogen containing monomers thereon or by grafting an unsaturated acid onto the polymer backbone and then reacting said carboxylic acid groups with amine, hydroxy amine or alcohol; and

(3) mixtures of (1) and (2); wherein when said lubricating oil dispersant (1) is present, then said dispersing amount of (1) is about 1 to 10 wt. %, and when said lubricating oil dispersant (2) is present, then said dispersing amount of (2) is from about 0.3 to 10 wt. %;

C. from about 0.01 to 5.0 parts by weight of oil soluble zinc dihydrocarbyl dithiophosphate wherein the hydrocarbyl groups contain from 1 to 18 carbon

of the ingredients of the composition, all of which are known lubricating oil additives except the copper component, which is listed at "D" in the claim.

Most or all chemicals interact to some extent in solution, wherein ions and molecules rearrange based on forces of various kinds. Under the court's new law, table salt dissolved in water will not be an adequate description of the composition for infringement purposes, since the sodium chloride molecule no longer "exists": in dissolution the sodium and chloride ions will have broken their bonds to each other, in interaction with molecules of water. For the Exxon lubricant composition the interactions in the pot were exceedingly complex. However, like salt in water, there is no uncertainty as to what was made and what was infringed. When the invention is adequately described and claimed by listing the ingredients of the composition, and is understood by persons of skill in the field of the invention, the law demands no more. To require inventors to identify and include in their claims the chemical interaction products formed in such a complex mixture is not necessary in order distinctly to state what the inventor regards as his invention. 35 U.S.C. § 112 ¶ 2:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The court's holding that a chemical composition claim that is written by listing the ingredients can not be enforced against the identical composition made by combining the identical ingredients in the identical ratio, unless none of the ingredients interact when they are

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atoms;

D. an antioxidant effective amount, within the range of from about 5 to about 500 parts per million by weight, of added copper in the form of an oil soluble copper compound; and

E. a lubricating oil detergent additive which comprises at least one magnesium or calcium salt of a material selected from the group consisting of sulfonic acids, alkyl phenols, sulfurized alkyl phenols, alkyl salicylates and naphthenates, wherein said parts by weight are based upon 100 parts by weight of said lubricating composition and said weight % is based on the weight of said lubricating composition.

placed together, is simply bad law. It is without precedent, and it is contrary to the way that chemical formulation composition claims are understood within the chemical and the legal communities. This *sua sponte* transformation of the patent law does not bode well for this court's implementation of its *Markman* role as *de novo* construer of patent claims.

Despite the serious disruption of chemical patent-dependent activity flowing from this decision and the massive taint upon existing property rights, the court has declined *en banc* review. Thus I write to explain why I believe that the panel majority has made an error of major consequence, an error that transcends the interests of these parties and this patent.

Chemical Formulation Compositions Are Correctly Claimed by Their Ingredients

The standard way of claiming chemical compositions is by their ingredients. Naming the chemicals and their amounts is the clearest, most accurate, and most comprehensible way of describing such inventions. Often there is no other way of describing chemical compositions. In Robert C. Faber, *Landis on Mechanics of Patent Claim Drafting* (3d ed. 1990) the author explains the pervasiveness of this type of claim in chemical inventions:

> As in the other classes, *most composition claims are combination claims* except where a new compound or molecule per se is claimed.
>
> * * * * * *
>
> Composition of matter claims *list the chemical ingredients (compounds, elements, or radicals) making up the composition* or compound. The ingredients or elements may be claimed narrowly (specific named components), with intermediate scope (a group of similar elements functionally equivalent), or broadly as to function performed, where the prior art permits. Where necessary to novelty, etc., the proportions or other conditions or parameters of the compound are stated, usually in ranges of concentration of ingredients.

Id. at 145, 148 (emphases added). Chemical compositions that are mixtures of ingredients are routinely claimed by listing the ingredients.

Such a composition is easy to describe with precision, easy to search and to examine for patentability, easy to understand, and unambiguous in content and scope. Whether there is interaction among the ingredients after they are placed in the container does not affect the specificity of the description of what has been invented. It is not necessary to know what physical or chemical interactions occur in the container in order to describe this invention, which resides in the combination of listed ingredients.

The law requires that the claims "reasonably apprise those skilled in the art both of the utilization and scope of the invention," and that "the language is as precise as the subject matter permits." *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 624, 225 USPQ 634, 641 (Fed.Cir. 1985). That requirement was plainly met by the claims in suit, for they were written as lubricant formulators would write them and understand them, by listing the ingredients of the composition. Whatever the scientific nature of the chemical interactions inside the container, the established and probably only way of describing such formulations is by their ingredients. The court creates a scientific burden that is totally unnecessary and perhaps impossible[2] to meet. There was extensive evidence at trial, presented by witnesses on behalf of both Exxon and Lubrizol, concerning what happens when these ingredients are put in the same container. Noted scientists debated the issue. The trial judge recognized that it was not possible to know what was happening inside the pot.

The court's holding that such claims are not infringed if changes occur within the composition after the ingredients are combined,

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[2] Exxon's expert witness, Dr. Ingold, testified as to the scientific possibility of proving what the panel requires:

> Q. Do you know of any other technique which would allow a chemist to determine precisely what is going on with respect to these hand-holding type interactions [the witness' description of the loose bonds the parties referred to as complexing] in a modern motor oil package?
>
> A. Dr. Barrett, there is no such technique available today, nor is there any combination of techniques available today that would let one say what was present after you have mixed all four of those components.

simply means that such compositions can no longer be patented in this way. The court's requirement that the patentee must state in the claim the products of chemical interaction that occur in the mixing pot, simply means that failure to do so leaves a useless patent that can not be enforced against the identical composition made from the identical ingredients in the identical ratios.

The court's ruling will impose disorder and uncertainty upon many fields of applied chemistry, for this claim form is the standard way of claiming new formulation inventions. The treatises teach the routine nature of such claims, recognizing that the components of a chemical composition are not a "mere aggregation," but cooperate in "joint action":

> A composition or product is patentable when it involves (1) a new and useful result and this result is a product of the combination and *not the mere aggregation* of several results; (2) a different result in *the combined forces* or processes from that given by their separate parts and a new result is produced by their union; (3) a result which is not the mere aggregate of separate contributions but is due to the *joint and cooperating action* of all the elements; and (4) several elements which produce by their *joint action* a new and useful result.

3 Anthony W. Deller, *Patent Claims* (2d ed. 1971) § 465 at 48 (citing *Colgate-Palmolive Co. v. Carter Products, Inc.*, 230 F.2d 855 (4th Cir. 1956)) (emphases added). Deller's and other treatises provide many examples of such compositions, all claimed by listing their ingredients.

I conducted a rough survey in the Official Gazette of the Patent and Trademark Office for December 26, 1995, which announced the issuance during the preceding week of 608 patents classified as "chemical." About a hundred of these patents were for chemical compositions that were claimed by listing their ingredients. For example, there were patents on a pollution control composition, a dye transfer inhibiting composition, a shampoo composition, a paint stripper composition, a polyol composition for polyurethane foams, a cold water detergent composition, a granular detergent composition, a wood preservative, an adhesive composition, photo-sensitive and

radiation-sensitive resin compositions, an x-ray film developer composition, a radiation-absorbing glass composition, and many more. All were claimed by listing the ingredients.

The invention of all such compositions is well described by the ingredients that are combined. Whatever interactions occur within the container holding the composition is irrelevant to the specificity and clarity of the claim and its understanding by persons in the field of the invention. The patent statute requires that the subject matter be described so that persons in the field know what has been invented. 35 U.S.C. § 112 ¶ 1:

> The specification shall contain a written description of the invention and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

It is basic chemistry that most organic and inorganic molecules when placed in solution interact in various ways. Such interactions may produce improved properties, thus providing the commercial value that inventors seek to secure through the patent system. Indeed, as stated by Deller in *Patent Claims, supra*, the patent office will not grant a patent on compositions where the properties are simply an aggregation of the known properties of the separate ingredients.

It was interesting to learn that the distinguished chemists who testified for both sides did not know with scientific certainty the interactions occurring in this complex lubricant formulation. The following exchange occurred during argument to the trial judge concerning "claim construction":

> Exxon counsel: . . . . We have Dr. Ingold's testimony about them [the chemical ingredients] coming together and breaking apart. We have Dr. Schroeck admitting that was true. But under cross, he admitted yes, they break apart. These phantom compounds that nobody can find.

* * * * * *

> LeSuer, although Mr. Adelman didn't remember it, says I don't know exactly what this is but it is definitely a stable linkage . . . . That is totally different from Dr. Schroeck saying that they are breaking apart all the time and Dr. Cotton saying these com-pounds are going back and forth, they are complexing and uncomplexing.
>
> * * * * * *
>
> District Court: . . . . I wanted to know if there is any way to find out what is in that composition, and you can't. Only a fool would try.

A lubricant composition described and claimed by listing the ingredients is appropriate to an invention that is indeed a combination of ingredients. A patent attorney testified that he has seen "literally thousands of lubricant patents" described and claimed, as in the Exxon patent in suit, by listing the ingredients. The panel majority's new requirement is contrary to chemical and practical reality, as is its speculation that Exxon could not prove infringement even under the court's new theory: the reason given for denying Exxon the chance to do so. Chemists know that all chemical reactions have a reaction time and a reaction threshold. Chemists understand the concepts of chemical reactivity and measurement of activity coefficients. Studies of chemical equilibria and thermo-dynamic principles as applied to chemical reactions, the basics of ionic forces in solution, and principles such as the Law of Mass Action (relating chemical equilibrium and concentration), are elementary tools of classical chemistry. Chemists know that when chemicals are placed in solution or dispersion they interact with the solvent or dispersant; they may form new bonds, or respond to attractive or repulsive forces, or form loose or tight complexes, or be subject to a variety of other interactions, often a combination of interactions in dynamic equilibrium, in a constantly fluctuating swirl of chemical complexity. Dr. Ingold explained these interactions at the trial:

> And the thing to try and remember about this is these weak [interactions] can break apart quite easily. So that this association between the dispersants and some molecule X can simply come apart and give you the detergent again plus the molecule X in free solution. And X can, of course, recombine. And this can happen

> thousands of millions of times. You don't in any way destroy the molecule in the dispersant nor do you affect X.

He further explained these interactions as they occur among the constituents of the additive packages:

> Q Dr. Ingold, do all of these components interact in the same associated way that we have discussed for the ZDDP and the ashless dispersant? Do they all interact that way?
>
> A Yes, Dr. Barrett, they interact with one another. They also interact with themselves. Everything is interacting with everything else. It is associating. They are associating and breaking up. It is a grand mixture as the molecules come together and associate and then fall apart again and—or take a new partner and reassociate.

Dr. Cotton, Lubrizol's chemistry expert, analogized these kinds of bonds to a square dance, where molecules release one partner and reattach to another and continue releasing and reattaching in a condition of equilibrium.

When the invention is the combination of ingredients, the occurrence of interactions in the pot does not defeat the adequacy of the description of the invention to persons in the art. The patenting of formulation compositions by identifying the components of the composition is legally sound, simple, and serviceable, and permits infringement or noninfringement to be readily determined, for it is necessary only to ascertain whether the listed ingredients are combined in the listed ratios.

The Patent Grant Encompasses Making, Using, or Selling the Patented Invention

The patent act states that "whoever without authority makes, uses, offers to sell or sells any patented invention," 35 U.S.C. § 271(a), infringes the patent. That statutory requirement is satisfied when the "recipe" of the claims is followed. Thus the panel majority has erred in applying the law, for the patented composition is made when the ingredients are combined.

The Exxon specification states that "modern lubricants are complex mixtures of various additives each serving a particular purpose." Col.

1 line 67 to col. 2 line 5. The specification describes the purpose of the various additives that are listed in the claim. It was testified at trial that the concern of lubricant formulators is "what goes into the pot," in the words at trial of Lubrizol's formulation chemist Dr. Salomon. An inventor need not understand the scientific mechanism in order to place an invention into the patent system. *See Newman v. Quigg*, 877 F.2d 1575, 1581, 11 USPQ2d 1340, 1345 (Fed.Cir. 1989) (observing that "it is not a requirement of patentability that an inventor correctly set forth, or even know, how or why the invention works"); *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1570, 219 USPQ 1137, 1140 (Fed.Cir. 1983) ("[I]t is axiomatic that an inventor need not comprehend the scientific principles on which the practical effectiveness of his invention rests."). The suggestion by the panel majority that Exxon's patent attorney did not know how to write claims is misdirected. These claims are written in the clearest, simplest, and most accurate way in which a formulation can be described: by listing the ingredients. I can discern no justification for the court's departure from this long-standing and reasonable claim practice.[3]

Indeed, the panel majority's concurring opinion suggests that if Exxon's ingredients remain sufficiently uncomplexed or unreacted for a period of time after mixing (an hour? a minute? a nanosecond?) the claim would be infringed even on the majority's interpretation. However, the majority denied Exxon the opportunity to prove such fact.

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[3]The panel majority recognized that compliance with its new "law" of claim construction may not be scientifically feasible, and suggested that claim-writing gimmickry should have been invoked. Thus the panel majority proposes that a patentee might overcome the court's newly created obstacles with a "product-by-process" claim—although this invention is neither a process nor a product, but a mixture of ingredients to form a composition. I will not speculate on whether the court's ruling can be made less pernicious by creative claim writing, or how the patent examining process will implement this new law governing composition claims.

Justice Requires Remand When this Court Creates a New Law of Claim Construction

Having adopted a claim construction that neither party proposed and that is without legal precedent, the panel majority nonetheless declined the patentee's request for remand so that the patentee could present factual evidence or argument relevant to this new "law" as applied to this case.

Fair procedure has been compromised by the court's refusal to remand to the trial court for the presentation of evidence or argument on the new factual issues raised by this court's new law of claim construction. *See Weade v. Dichmann, Wright & Pugh Inc.*, 337 U.S. 801, 808-09, 69 S. Ct. 1326, 1330, 93 L. Ed. 1704 (1949) (remand required to consider alternative theory of liability).

It is inappropriate for the appellate court to make its own scientific finding that such proof is not possible on the court's new criterion. Although the district court stated during discussion of the jury charge that what is in the composition can not be determined, *see supra*, apparently there was no discussion concerning whether there was a transient existence in the mixture of the uncombined ingredients, for that was not an issue. The district court did not discuss whether the "complexing and uncomplexing" described by Dr. Cotton, and the other interactions postulated by other witnesses, might permit the patentee to prove that the ingredients have at least a transient existence in the ratios stated in the claim. The rate of association or complexing is not discussed in the portion of the record provided us, and does not appear to have been at issue.

As a matter of procedural justice, a litigant is entitled to present its case when the court changes the law. *See Neely v. Martin K. Eby Constr. Co.*, 386 U.S. 317, 325, 87 S. Ct. 1072, 1078, 18 L. Ed.2d 75 (1968) (appellate court "may not order judgment where . . . . the record reveals a new trial issue which has not been resolved"); *Brinley v. Commissioner of Internal Revenue*, 782 F.2d 1326, 1336 (5th Cir. 1986) (justice requires the opportunity to present evidence in light of new legal rule established on appeal). Although the appellate court need not remand for a futile trial, *Boyle v. United Technologies Corp.*, 487 U.S. 500, 513-514, 108 S. Ct. 2510, 2519, 101 L. Ed.2d 442

(1988), it is apparent from the record that such a condition does not here exist. Thus, on the claim construction of the panel majority,[4] the patentee is entitled to develop the facts for application of our new law. Even as this court declined to correct en banc the panel's claim construction, the case should have been remanded for application of this new rule of law to the evidence. Thus, respectfully, I dissent from the court's denial of rehearing *en banc*.

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[4] I can not reconcile the Response's suggestion of today that the theory it adopted was presented at the trial, with the statement in the majority opinion "that Exxon's preferred claim interpretation is incorrect, and that Lubrizol's is only partly correct." 64 F.3d at 1555, 35 USPQ2d at 1802.

**UNITED STATES COURT OF APPEALS,
FEDERAL CIRCUIT**

**EXXON CHEMICAL PATENTS, INC., Exxon Corporation and Exxon Research and Engineering Co.,
Plaintiffs-Appellees,**

v.

**LUBRIZOL CORPORATION,
Defendant-Appellant.**

Nos. 93-1275, 94-1309
September 1, 1995.

Before NIES, PLAGER, and CLEVENGER, Circuit Judges.

CLEVENGER, Circuit Judge.

Lubrizol Corporation (Lubrizol) appeals the February 5, 1993 judgment of the United States District Court for the Southern District of Texas, Houston Division, *inter alia* holding that U.S. Patent No. 4,867,890 assigned to Exxon Chemical Patents, Inc. (Exxon) is not invalid under 35 U.S.C. § 102 or § 103 (1988) and is enforceable, and that Lubrizol willfully infringed the claims of the '890 patent. We reverse the judgment of infringement.[1] We vacate the award of

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[1] The judgment is limited to literal infringement of Exxon's claims. The jury was charged solely with respect to literal infringement, directly or by inducement or contribution, and whether such literal infringement was willful. Although Exxon initially proposed a jury charge on infringement under the doctrine of equivalents, its counsel consented to the deletion of the doctrine of equivalents from the infringement charge given to the jury. Lubrizol's brief notes that "Exxon asserted only literal infringement", and Exxon does not contest that statement. The dissenting opinion raises a question of whether Exxon is now entitled to a jury trial on infringement under the doctrine of equivalents. That issue was not briefed or argued to the panel, and consequently we, unlike Judge Nies, express no view on that question.

attorneys' fees and costs to Exxon, the injunction entered against Lubrizol, and the damage award entered on February 15, 1994.

I

After extensive discovery, this patent infringement case was tried to a jury. Following the jury's verdict of willful infringement, the judge concluded that the case was exceptional under 35 U.S.C. § 285 (1988) and awarded Exxon its attorneys' fees and costs. Lubrizol's post trial motion for judgment as a matter of law or for a new trial was denied by the judge, and Lubrizol timely brought this appeal. We have jurisdiction under 28 U.S.C. § 1295(a)(1) (1988).

The central issue in this appeal is claim interpretation. Exxon's claims are to a lubricating oil composition suitable for use as a crankcase lubricant in internal combustion engines. The claimed composition is defined as comprising—meaning containing at least—five specific ingredients. Exxon contends that its patent claims a "recipe" of ingredients that extends to any product made by using the claimed ingredients, even if the product itself—as a result of chemical complexing—fails to include one of the claimed ingredients. Lubrizol argues that since Exxon claims a composition *product*—not a process for making a product or a product made by a claimed process—the '890 patent only extends to final products that include the specified claimed ingredients.

The trial judge, candidly expressing considerable difficulty in understanding the chemistry and law involved in the case, treated the issue of claim interpretation as a matter of deciding which of the two parties offered the correct meaning of the claims. The jury was charged according to Exxon's preferred claim interpretation.

The duty of the trial judge is to determine the meaning of the claims at issue, and to instruct the jury accordingly. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970 (Fed. Cir. 1995). In the exercise of that duty, the trial judge has an independent obligation to determine the meaning of the claims, notwithstanding the views asserted by the adversary parties. The pursuit of that obligation in this case would have resulted in a determination that Exxon's preferred claim interpretation is incorrect, and that Lubrizol's is only partly correct. As we explain below, under a jury charge stating the correct

interpretation of the claims, no jury could reasonably have found—on the evidence submitted by Exxon—that Lubrizol's accused products literally infringe Exxon's claims. Because of Exxon's failure of proof, Lubrizol is entitled to judgment as a matter of law. *See Zenith Labs., Inc. v. Bristol-Myers Squibb Co.*, 19 F.3d 1418, 1424, 30 USPQ2d 1285, 1290 (Fed.Cir. 1994). Accordingly, we reverse the final judgment on liability entered on the jury verdict and vacate the order awarding attorneys' fees and costs and the injunction entered against Lubrizol. The judgment of the District Court which is the subject of Lubrizol's companion appeal challenging the award of damages is vacated.[2]

II

Exxon and Lubrizol manufacture crankcase lubricating oil compositions and concentrate compositions which are mixed with oil basestock to produce lubricating oils for motor vehicle engines. Such products typically contain the following components as additives: (1) a dispersant, which suspends impurities to prevent sludge and varnish deposits on engine parts, (2) ZDDP, a zinc-containing compound that inhibits engine wear and produces antioxidant results for the oil, (3) a detergent, which helps prevent engine deposits, and (4) a supplemental antioxidant, necessary because use of ZDDP is limited by environmental concerns. Oxidation of the oil component substantially shortens the life of lubricating oils. Oxidation results in increased acidity of the lubricant, which can enhance corrosion of engine parts and increase viscosity of the product, thereby degrading its lubricant qualities.

Exxon's '890 patent seeks enhanced antioxidant results by the addition of a small amount of copper as the supplemental anti-oxidant

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[2] The issue of damages was reserved for trial after the trial on liability. The damage award against Lubrizol entered on February 15, 1994, is appealed in No. 94-1309, oral argument in which was heard on March 8, 1995. We have consolidated the appeal in No. 94-1309 with the appeal in No. 93-1275. In light of our reversal of the liability judgment against Lubrizol, no basis remains for a damage judgment against Lubrizol, and we therefore vacate the damage judgment entered in this case.

to the other typical ingredients of the product. The prosecution history of Exxon's patent emphasized the beneficial synergistic effects caused by the added copper when in the presence of an ashless dispersant.

III

We have recently concluded in banc that claim interpretation is a matter of law, and that the trial judge alone has the duty and responsibility to interpret the claims at issue. *Markman*, 52 F.3d at 970. After close of the evidence in this case, the judge heard argument from the parties on the meaning of Exxon's claims. During that argument, Lubrizol argued that the meaning of the claims should be left to the jury for decision, if the court failed to agree with Lubrizol's preferred claim interpretation. The judge correctly refused to submit the issue to the jury, and instead decided which of the two proffered interpretations seemed most correct. It may well be that in some cases one side or the other will offer the correct claim interpretation to the judge. More often, however, it is likely that the adversaries will offer claim interpretations arguably consistent with the claims, the specification and the prosecution history that produce victory for their side. In any event, the judge's task is not to decide which of the adversaries is correct. Instead the judge must independently assess the claims, the specification, and if necessary the prosecution history, and relevant extrinsic evidence, and declare the meaning of the claims. No matter when or how a judge performs the *Markman* task, on appeal we review the issue of claim interpretation independently without deference to the trial judge.

IV

Representative of the claims of the '890 patent, claim 1 is directed to "[a] lubricating oil composition suitable as a crankcase lubricant in internal combustion engines comprising": (1) a major amount of lubricating oil, (2) an ashless dispersant (i.e. one that neither contains nor is complexed with metal) in specified amounts of "about 1 to 10 wt. %", (3) from about 0.01 to 5.0 parts by weight of oil soluble ZDDP, (4) 5 to 500 parts per million by weight of added copper in the

form of an oil soluble copper compound, and (5) magnesium or calcium detergent.[3]

The subject of claim interpretation was argued to the judge at the close of Exxon's case and was considered again in extensive argument at the close of all the evidence. At the conclusion of the arguments, the judge decided that Exxon was correct in its view of the claims' meaning. The parties did not contend that the claims of the '890 patent are process claims drawn to a specified manner of manufacture, and the claims as written could not have such meaning. Nor are the claims said to be, or could they be, product-by-process claims. The claims of the '890 patent are drawn to a particular composition: they are product claims. According to Exxon, its claims cover any product that is made by using the specific ingredients identified in the limitations of claim 1.[4] During the trial, Exxon's claims were thus said to be to a "recipe" for making the composition. Whether the specified ingredients could be found in the actual composition produced by mixing the ingredients is, according to Exxon, simply irrelevant to the meaning of the claims. To emphasize this point, Exxon's counsel

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[3]The full text of claim 1 is set forth in the appendix to this opinion. Claim 61 of the '890 patent is drawn to a lubricating oil concentrate composition suitable for use in preparing crankcase lubricants. That claim, like claim 1, has specific quantity limitations for the ingredients, including the ashless dispersant ingredient. However, claim 61 does not require a "major amount" of lubricating oil (it requires "a lubricating oil," without specific amount), and it requires 10 to 60 wt. of ashless dispersant. Both claims were submitted to the jury.

[4]If the claim is defined solely by the starting ingredients, a product actually containing all the specified ingredients would seem to escape at least literal infringement if produced by the combination of different ingredients. Such is at odds with the doctrine that a product claim is infringed by any product containing every claim limitation, regardless of how the product is made. *See Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1535, 19 USPQ2d 1367, 1369 (Fed.Cir. 1991); *see also* 2 Donald S. Chisum, *Patents* § 8.05 at 8-79 (1994) (collecting cases). Under Exxon's view, its claims also would seem not to reach a product made with a nonashless dispersant starting ingredient that is somehow rendered ashless during manufacture, if such a rendering is chemically possible.

stated—both to the trial judge and this court—that Exxon's claims will cover a composition that has the added copper regardless of whether any ashless dispersant can be found in the mixture. In short, in Exxon's view the claimed "recipe" for making the claimed product *is* the claimed product.

The trial judge charged the jury accordingly:

> I instruct you that Exxon's claims cover the ingredients which go into the composition. If you find that Exxon has proved that a Lubrizol product is made by using the starting ingredients in the amounts called for in one or more of Exxon's claims, then that product directly infringes.

The issue of claim interpretation had been raised first by Lubrizol in its motion for a directed verdict at the close of Exxon's case, which the judge denied. The issue was raised again by Lubrizol's motion for judgment as a matter of law at the close of all the evidence, also denied by the judge. The charge to the jury on claim interpretation was also challenged by Lubrizol, both before the case was submitted to the jury and by the post trial motion for judgment as a matter of law.

As noted above, Exxon's claims are drawn to a specific product which has particularly defined ingredients. Nothing in the claims, the specification, or the prosecution history suggests that Exxon's claims are not drawn to a product that contains particular ingredients. Indeed, to the contrary, the title to the '890 patent reads, with the emphasis added, "Lubricating Oil Compositions *Containing* Ashless Dispersant, [ZDDP], Metal Detergent and a Copper Compound". *See Titanium Metals Corp. of Am. v. Banner*, 778 F.2d 775, 780, 227 USPQ 773, 777-78 (Fed.Cir. 1985) (referring to patent's title as interpretative aid). The language of claim 1 refers to "added" copper and to a detergent "additive." The specification demonstrates that those claim references aim at a chemical composition to which ingredients are being introduced. We must give meaning to all the words in Exxon's claims. *In re Sabatino*, 480 F.2d 911, 913, 178 USPQ 357, 358 (CCPA 1973) ("Claim limitations defining the subject matter of the invention are never disregarded.") In addition, the text of the '890 specification includes over twenty references to "containing" in reference to the ingredients claimed in the composition. Furthermore,

during prosecution of the applications that resulted in the '890 patent, Exxon repeatedly emphasized that the genius of its invention lay "in the *previously unknown* synergism of this material [copper] with ZDDP in the presence of an ashless dispersant of the type described in the application. . . ."

In sum, a review of the claims, the specification, and the prosecution history all point to the conclusion that Exxon claims a product, not merely a recipe for making whatever product results from the use of the recipe ingredients. This conclusion respects that which is claimed, namely a chemical composition. The chemical composition exists at the moment the ingredients are mixed together. Before creation of the mixture, the ingredients exist independently. The particular proportions specified in the claims simply define the characteristics of the claimed composition.

Under Lubrizol's view of the claims, as asserted at trial and on appeal, the composition claimed by Exxon is limited to the final product made and ready for use in the engine environment. Lubrizol is correct that the claims read on a product, not simply a recipe, but Lubrizol errs in thinking that the claims read only on end product compositions. Lubrizol thus asserts a claim meaning that depends upon the time at which one views the composition claimed. The specification as a whole, and the claims in particular, contain no temporal limitation to the term "composition." Indeed, claim 61 reads on a concentrate for preparing lubricants, which is hardly a product ready for consumer end use. The composition of claim 1, once its ingredients are mixed, is a composition existing during manufacture that is being used to produce the end product. Consequently, as properly interpreted, Exxon's claims are to a composition that contains the specified ingredients at any time from the moment at which the ingredients are mixed together. This interpretation of Exxon's claims preserves their identity as product claims, and recognizes as a matter of chemistry that the composition exists from the moment created. Although Lubrizol is correct in taking Exxon's claims to read on a product, its interpretation of Exxon's claims is too narrow. Exxon is entitled to a broader scope that is not time-limited, one that reads on any product at any time that contains the claimed proportions of ingredients. The correct interpretation simply affords Exxon a wider

range of product on which to assert infringement. Indeed, Exxon even took advantage of the correct interpretation during trial. When defending its case under Lubrizol's claim interpretation, Exxon did not introduce evidence that Lubrizol's final product infringed. Instead of offering evidence that analyzed the components of Lubrizol's final product, Exxon's witnesses testified to the reaction that occurs when the Lubrizol product is in the process of being made into the final product. According to Exxon's witnesses, that reaction did not result in complete elimination of ashless dispersant in the product. Exxon thus did not focus on Lubrizol's final product to prove infringement. Exxon adopted the broader view and described the infringing activity as occurring while the claimed ingredients were undergoing chemical reactions, necessarily a time before the final product, ready for sale, exists.

We thus hold that the judge erred as a matter of law in giving Exxon's preferred claim interpretation to the jury, and in using that interpretation in ruling on Lubrizol's post trial motion. Under the proper charge, the jury would not have been asked if Lubrizol used Exxon's starting ingredients. Instead, the jury would have been asked to find whether Exxon had proved by a preponderance of the evidence that Lubrizol's products at some time contained each of the claimed recipe ingredients in the amounts specifically claimed.

V

Given the correct interpretation of Exxon's claims, the dispositive question before us is whether any jury could reasonably have found that Lubrizol's accused products literally infringe the claims of the '890 patent as properly construed. *Jamesbury Corp. v. Litton Indus. Prods.*, 756 F.2d 1556, 1560-61, 225 USPQ 253, 257 (Fed.Cir. 1985). Our authority to decide this question has been explicitly stated by the Supreme Court:

> If the evidence presented in the first trial would not suffice, as a matter of law, to support a jury verdict under the properly formulated defense, judgment could properly be entered for the respondent at once, without a new trial. And that is so even though (as petitioner claims) respondent failed to object to jury instructions

that expressed the defense differently, and in a fashion that would support a verdict.

Boyle v. United Technologies Corp., 487 U.S. 500, 513-514, 108 S. Ct. 2510, 2519, 101 L. Ed.2d 442 (1988). Lubrizol thus may be entitled to judgment as a matter of law. *Id.* "The question of whether the evidence is sufficient to create an issue of fact for the jury is itself a question of law, which we will now decide." *Jamesbury*, 756 F.2d at 1560, 225 USPQ at 257. Literal infringement requires that every limitation in Exxon's claims be found in the accused product. *Laitram*, 939 F.2d at 1535, 19 USPQ2d at 1369. Exxon's burden is thus to prove by a preponderance of the evidence, among other things, that Lubrizol's products contained at some time ashless dispersant in the amounts specifically claimed.

From the beginning of the trial, Exxon was on notice that Lubrizol's view of claim interpretation required Exxon to prove that Lubrizol's products contained ashless dispersant in the amounts specified. Exxon was also aware from discovery that Lubrizol would defend against the charge of infringement by proof that its products as manufactured contained no ashless dispersant. Exxon thus had the choice of simply proving infringement under *its* view of the claims, or in addition proving infringement under Lubrizol's view as well. Exxon chose to do both. Lubrizol's defense on its view of the claims is based on its evidence that, when one mixes the ingredients specified in Exxon's claims, (1) the soluble copper compound reacts with ZDDP to form a zinc compound and CuDDP and (2) zinc then bonds to the formerly ashless dispersant to render it non-ashless, inasmuch as, after the reaction, it is complexed with a metal. According to Lubrizol, the reactions are immediate and the bond formed between the dispersant and zinc is firm, and as a result, its product lacks the ashless dispersant specified as a necessary ingredient in Exxon's claims.

At trial, Exxon sought to prove its case, under Lubrizol's claim interpretation, with testimony that the bond formed between the zinc and the dispersant was a weak one. The bond was described as unstable, with the molecules bonding, unbonding and rebonding constantly. The process was described variously as analogous to a square dance with partners swapping around, to hand-holding and

unholding, and to hats being taken on and off. The bonding and unbonding, also described as a "dynamic equilibrium," occurs an infinite number of times. According to Exxon, the weak bond—with its constant reversal and rebonding—proved that Lubrizol's dispersant was not always nonashless, and therefore sometimes ashless. Exxon's proof was supplied by expert opinion and did not include any scientific measurements resulting from tests of Lubrizol's accused products. Exxon's proof did not relate to infringement by Lubrizol's *final* products. Instead, its proof was aimed at the presence of ashless dispersant during manufacture of the end product.

Lubrizol's expert witnesses countered with their opinion that the bond created between the zinc and the dispersant was a strong complex, and that the dispersant remained non-ashless 99.999% of the time. The testimony of Lubrizol's witnesses relied on nuclear magnetic resonance tests performed by Lubrizol on its products, and concluded that there is no ashless dispersant in Lubrizol's accused products after blending their starting ingredients.

We may assume for purposes of this appeal that a jury hearing such evidence could reasonably have concluded that—at some time—during the manufacture of the product or in its manufactured state—ashless dispersant is found in Lubrizol's product.[5] That assumption, however, is not dispositive of Lubrizol's post trial motion for judgment as a matter of law. It is not enough for Exxon to prove that *some* of the dispersant in Lubrizol's product is ashless even if momentarily. Lubrizol's motion is only thwarted if Exxon has supplied testimony

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[5] On the record before this court, it is not clear that the trial judge meant for the jury to consider the testimony about the nature of the bond between the zinc and the ashless dispersant. In discussions with counsel, the judge stated clearly that he would charge the jury as Exxon wanted, and under Exxon's view of the claims what "happens in the pot" during or after manufacture of the composition, and Lubrizol's nuclear magnetic resonance evidence, is simply irrelevant. Under the claim interpretation charge given, there was no reason for the jury to consider the evidence of both parties going to whether Lubrizol infringes under its view of the claims. To find infringement as charged, all the jury had to find is that Lubrizol used Exxon's claimed starting ingredients in the amount claimed, an essentially uncontested fact.

from which a reasonable jury could conclude that Lubrizol's products contain ashless dispersant in the specific amounts claimed. Exxon offered no testimony on the amounts of ashless dispersant present *in* Lubrizol's products. Nor did Exxon provide the jury with direct evidence from which it could have inferred that the required percentages are found in the composition after it is created out of its specified starting ingredients. In its briefs to this court, Lubrizol emphasized Exxon's failure of proof with regard to the quantities of the ingredients contained in the accused products. Exxon did not respond with assertions that the record included proofs of the *quantities* of ingredients present in the accused products. Instead, Exxon argued only that "Lubrizol started with the requisite amount of ashless dispersant and, even under its theory, ashless dispersant is still present in Lubrizol's final product, albeit in ever-changing form." In order to prevail under properly interpreted claims, Exxon was obliged to prove both the presence of ashless dispersant and presence of the required quantity. Exxon's failure as to the latter requires us to conclude as a matter of law in Lubrizol's favor.

Post-trial motion practice entails, *inter alia*, ascertainment of whether correct law has been applied to the facts presented at trial in reaching a verdict or judgment. When a trial judge determines on a post-verdict motion what the law correctly is, the judge then determines whether any juror could reasonably have reached—on the evidence presented at trial—the verdict challenged by the post-verdict motion. If the answer is no, the trial judge reverses the jury verdict for failure of proof on the correct legal standard, and denies the loser a second trial on the correct law. That is what happened at trial in *Markman*, and we affirmed that disposition *in banc*, 52 F.3d 967, 973, 989.

When we determine on appeal, as a matter of law, that a trial judge has misinterpreted a patent claim, we independently construe the claim to determine its correct meaning, and then determine if the facts presented at trial can support the appealed judgment. If not, we reverse the judgment below without remand for a second trial on the correct law. That is what we did to the bench trial in *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1539 (Fed.Cir. 1991), citing as support the very language from the Supreme Court decision in *Boyle* that we

rely upon herein to deny Exxon the second trial that Judge Nies would provide. We ordinarily do the same thing in the appellate review of jury trial cases, typically explaining our duty as follows:

> Accordingly, we must determine whether there exists evidence of record upon which a jury might properly have returned a verdict in Litton's favor when the correct legal standard is applied. If there is not, Jamesbury was entitled to have the question removed from the jury and decided as a matter of law.

Jamesbury Corp. v. Litton Indus. Prods., Inc., 756 F.2d 1556, 1560 (Fed.Cir. 1985). *See also Dana Corp. v. IPC Ltd. Partnership*, 860 F.2d 415, 419 (Fed.Cir. 1988). Such judicial events are not extraordinary.

On the facts of this case, we perceive no reason to deviate from, or reject, the settled law that compels reversal. The correct meaning of Exxon's claims is but a slight variance from that urged vigorously and continuously by Lubrizol. That Lubrizol sought to hold Exxon to proof of infringement of product claims hardly comes, or came, out of the blue. Exxon was fully aware that Lubrizol stood on a claim meaning that would require Exxon to prove the presence of specified amounts of claimed ingredients in some Lubrizol product. In fact, Exxon attempted to prove infringement under the interpretation we give to its claims. We have noted that Exxon chose not to introduce proofs of the contents of Lubrizol's *final* products. Rather, its proof of the presence of some ashless dispersant, evidence that we credit in testing the denial of the post verdict motion, relates to product in pre-final states. Nothing precluded Exxon from arguing and seeking to prove that *a* Lubrizol product, at some time after its creation, contained the specified ingredients in the claimed amounts. We have emphasized that Exxon's error was in failure of proof as to the claimed amounts, without which it could not prove infringement under Lubrizol's claim meaning. The trial judge did not interpret the claims until all the evidence was in, just before the case was submitted to the jury. Exxon—knowing Lubrizol's defense—knew that it would lose on Lubrizol's claim meaning unless it could show the presence of the claimed ingredients in the claimed amounts in some Lubrizol product. Exxon was free to choose the moment at which it would identify with

proof that a Lubrizol product infringed. Thus, Exxon could have argued and sought to prove that ashless dispersant is present in the claimed percentages, along with the other claimed ingredients in their specified amounts, at any time from the moment of creation of Lubrizol's product. Exxon cannot now claim surprise from our variation on Lubrizol's claim meaning and cry foul in not having a second chance to prove what it was free to prove at trial. Consequently, on the facts of this case, we discern no reason to carve an exception into the settled law in order to provide Exxon an opportunity to escape from the flaws in its claim drafting (as described in Judge Plager's concurring opinion) and trial strategy. We therefore disagree with Judge Nies's view that our reversal without remand for a second trial is improper.[6]

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[6] *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565 (Fed.Cir. 1986), and *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320 (Fed.Cir. 1991), do not stand in the way of our decision. Each case raised the question whether a party seeking to upset a jury verdict on a post verdict motion had failed to preserve the ground for the post verdict motion by failing to specify that ground in earlier directed verdict motions. In *Orthokinetics*, the specific question was whether a motion for directed verdict of simple non-infringement embraced a later post verdict motion seeking to upset a jury verdict of willful infringement. The trial court had granted the motion, holding the evidence insufficient to support a jury verdict of willful infringement. This court concluded that the movant had failed to preserve the issue of willful infringement for the post verdict motion. 806 F.2d at 1579. This court, however, did not reverse the grant of the post verdict motion for failure to have preserved its ground. Indeed, this court did not conclude that the district court was even required to reject the post verdict motion. We only noted that the "district court might well have refused consideration of willfulness on the motion for JNOV in light of Rule 50(b)." *Id.* at 1580. Dispositively, this court held the ruling on the post verdict motion ripe for appellate review because the non-movant had not objected to the grounds stated in the post verdict motion.

It is difficult to understand how *Orthokinetics* in Judge Nies's hands helps the cause she advocates for Exxon. This is so because *Orthokinetics* teaches that even a legally insufficient post verdict motion may be acted upon by the trial judge with that action preserved for appellate review, if the non-movant has not objected to the content of the post verdict motion. We

VI

Because Lubrizol is entitled to a judgment of noninfringement as a matter of law and thus to vacation of the order awarding Exxon its attorneys' fees and costs and of the injunction entered against Lubrizol, we need not reach the other grounds asserted by Lubrizol for reversal of the judgment of infringement or in the alternative for a new trial. Because there is no basis for a damage award against Lubrizol, we vacate the damage award in appeal No. 94-1309.

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note, in passing, that Exxon did not object to the content of Lubrizol's post verdict motion.

Malta sheds interesting light on what can be devined from *Orthokinetics*. In *Malta*, the question was whether a barebones motion for directed verdict, at the close of all the evidence, of noninfringement "on the grounds that the evidence is insufficient," 952 F.2d at 1324, was sufficient to support a post verdict motion challenging the verdict of infringement under the doctrine of equivalents for lack of "particularized function/way/result testimony and linking argument." *Id.* at 1325. This court concluded that the earlier general motion of noninfringement embraced all the particular arguments in support of the post verdict motion. In the light of *Malta*, we cannot fault the failure of Lubrizol, in its post verdict motion, to have argued that Exxon could prove infringement under Lubrizol's theory by proving not only that Lubrizol's *final* product infringed, but that *any* product made by Lubrizol that existed after the moment of creation also could infringe. Indeed, the spread between the general and the specific in *Malta* is enormous, compared to the distance between the meaning we give Exxon's claims on appeal and that advanced by Lubrizol to the trial judge. Lubrizol's view of the claims is less generous to Exxon than ours. If only Lubrizol's *final* product could infringe Exxon's claims, Exxon's proofs fail completely since it produced no evidence of the content of any Lubrizol *final* product. Only under the interpretation we give Exxon's claims does Exxon's evidence of infringement of a product claim have any relevance. This is so because the only evidence Exxon put on to show the presence of ashless dispersant in a Lubrizol product was evidence of the reaction that occurs during the manufacture of the Lubrizol final product. This evidence was offered when Exxon did not know if the trial court would accept its, or Lubrizol's proffered claim interpretation. Exxon thus focussed on a product of Lubrizol that was not its final product, but, as we have noted, Exxon fell short of demonstrating that the ashless dispersant, when present, was present in the claimed amounts.

No costs.

REVERSED.

APPENDIX

Claim 1 of the '890 patent reads as follows:

1. A lubricating oil composition suitable as a crankcase lubricant in internal combustion engines comprising:

A. a major amount of lubricating oil;

B. a dispersing amount of lubricating oil dispersant selected from the group consisting of:

(1) ashless nitrogen or ester containing dispersant compounds selected from the group consisting of:

(a) oil soluble salts, amides, imides, oxazolines, esters, and mixtures thereof, of long chain hydrocarbon substituted mono- and discarboxylic acids or their anhydrides;

(b) long chain aliphatic hydrocarbons having a polyamine attached directly thereto; and

(c) Mannich condensation products formed by condensing about a molar proportion of long chain hydrocarbon substituted phenol with from about 1 to 2.5 moles of formaldehyde and from about 0.5 to 2 moles of polyalkylene polyamine; wherein said long chain hydrocarbon group is a polymer of a C_2 to C_5 monoolefin, said polymer having a molecular weight of from about 700 to about 5000;

(2) nitrogen or ester containing polymeric viscosity index improver dispersants which are selected from the group consisting of:

(a) polymers comprised of C_4 to C_{24} unsaturated esters of vinyl alcohol or of C_3 to C_{10} unsaturated mono- or dicarboxylic acid with unsaturated nitrogen containing monomers having 4 to 20 carbons,

(b) copolymers of C_2 to C_{20} olefin with C_3 to C_{10} mono- or dicarboxylic acid neutralized with amine, hydroxy amine or alcohols, and

(c) polymers of ethylene with a C_3 to C_{20} olefin further reacted either by grafting C_4 to C_{20} unsaturated nitrogen containing monomers thereon or by grafting an unsaturated acid onto the polymer backbone and then reacting said carboxylic acid groups with amine, hydroxy amine or alcohol; and

(3) mixtures of (1) and (2); wherein when said lubricating oil dispersant (1) is present, then said dispersing amount of (1) is about 1 to 10 wt. %, and when said lubricating oil dispersant (2) is present, then said dispersing amount of (2) is from about 0.3 to 10 wt. %;

C. from about 0.01 to 5.0 parts by weight of oil soluble zinc dihydrocarbyl dithiophosphate wherein the hydrocarbyl groups contain from 1 to 18 carbon atoms;

D. an antioxidant effective amount, within the range of from about 5 to about 500 parts per million by weight, of added copper in the form of an oil soluble copper compound; and

E. a lubricating oil detergent additive which comprises at least one magnesium or calcium salt of a material selected from the group consisting of sulfonic acids, alkyl phenols, sulfurized alkyl phenols, alkyl salicylates and naphthenates, wherein said parts by weight are based upon 100 parts by weight of said lubricating composition and said weight % is based on the weight of said lubricating composition.

PLAGER, Circuit Judge, concurring.

I join in the reversal of the trial court's judgment of infringement, based on what I consider to be the correct claim interpretation as advanced by Judge Clevenger, and the consequences that flow therefrom.

There is testimony in the record that indicates that it is not known exactly how the chemical complexing, described in the opinion, actually works. If this is so, then Exxon's burden, to prove that the

chemical ingredients exist at some point in the accused composition in the claimed proportions, may be impossible of accomplishment. That could be said to argue in favor of an alternative construction of the claims, that what was meant was a process or product-by-process claim.

The difficulty with that argument is that the claims, as the opinion well demonstrates, are unquestionably composition of matter claims. In retrospect, it would appear that Exxon wishes it had product-by-process claims, and thus a "recipe." But we are not free to read the claims as they might have been drafted, even if as drafted they do not accomplish what the inventor may have intended.

Claim drafting is itself an art, an art on which the entire patent system today depends. The language through which claims are expressed is not a nose of wax to be pushed and shoved into a form that pleases and that produces a particular result a court may desire. The public generally, and in particular, the patentee's competitors, are entitled to clear and specific notice of what the inventor claims as his invention. That is not an easy assignment for those who draft claims, but the law requires it, and our duty demands that we enforce the requirement. There is no room in patent claim interpretation for the equivalent of the *cy pres* doctrine; that would leave the claiming process too indefinite to serve the purposes which lie at the heart of the patent system.

NIES, Circuit Judge, dissenting.

Contrary to conventional wisdom in the art, Exxon discovered that small amounts of copper in automobile motor oil acts as an antioxidant, and it developed a highly successful commercial product using that discovery. The record discloses that Lubrizol learned of the presence of copper in Exxon's motor oil from Exxon's U.K. patent application and used the disclosure to prepare a competitive product. Both companies now use copper in the vast majority of their passenger car motor oil formulations. Following this phase of the litigation finding Lubrizol liable for infringement of Exxon's U.S. Patent No. 4,867,890, Exxon was awarded $48,000,000 in damages which were

doubled for willfulness and $8,700,000 in interest plus $23,700,000 in attorney fees.[1]

The issue of infringement essentially comes down to whether Exxon drafted a claim in its U.S. patent that covers its invention. The majority interprets the claims to require that each of the listed additives to a motor oil must retain its pre-mix identity, to the extent that each must be present in the claimed proportions at some point after mixing. Because Exxon failed to prove that the additives remained identifiable (in those proportions) in Lubrizol's product at some time during or after mixing, the majority reverses the judgment of infringement. I agree with the trial court that Lubrizol infringes. Lubrizol's motor oil contains the required additives in the required amounts. To hold that the final product does not "comprise" those ingredients because of their possible reaction with each other upon mixing seems to me nothing short of double speak. The claims can be interpreted as the majority does only by reading them in isolation from the context of the patent. Moreover, the majority's interpretation gratuitously provides grounds for invalidation of the patent under section 112, because the specification does not describe nor enable one skilled in the art to make a product containing the claimed ingredients in the claimed amounts except as starting ingredients, not mixed ingredients.[2]

The majority focuses principally on the claimed "ashless dispersant" which must remain in its view "ashless" in the required amount in the composition. I interpret "ashless dispersant" as simply the name or designation of an ingredient required as one of the additives. It does not mean the ingredient must remain inert.

As stated in *Adams v. United States*, 383 U.S. 39, 49, 86 S. Ct. 708, 713, 15 L. Ed.2d 572, 148 USPQ 479, 482 (1966), "it is

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[1] Appeal No. 94-1309 challenging the amount of damages is mooted by the majority decision.

[2] Paragraph 1 of 35 U.S.C. § 112 (1988) states, in relevant part: "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains or with which it is most nearly connected, to make and use the same. . . ."

fundamental that claims are to be construed in light of the specifications and both are to be read with a view to ascertaining the invention." Moreover, claims should be "construed, if possible, as to sustain their validity." *North American Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 1577, 28 USPQ2d 1333, 1337 (Fed. Cir. 1993).

Applying those precepts warrants an affirmance in this case. My concern is, however, not merely this case. The majority mandates technical rules for how chemical compositions must be claimed which I reject.

I.

Infringement here turns on interpreting claims 1 and 61. Claim 1 is directed to "a lubricating oil composition" comprising: (a) a major amount of lubricating oil; (b) a specified amount of dispersant (either about 1-10 wt. percent of an ashless dispersant[3] or about 0.3-10 wt. percent of a "polymeric viscosity index improver"[4]; (c) about 0.01 to 5.0 parts by weight of zinc dihydrocarbyl dithiophosphate ("ZDDP"); (d) about 5 to about 500 parts per million by weight of added copper in the form of an oil soluble copper compound; and (e) a calcium or magnesium detergent. Claim 61 claims a "lubricating oil concentrate composition" comprising the same five ingredients in different, specified amounts.

The trial judge interpreted those claims for the jury, instructing them as follows:

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[3] "Ashless" denotes an absence of combined or complexed metal. Lubrizol's Dr. Salomon testified that "it is easier from a manufacturing point of view to manufacture it in the ashless form." She added that "[a]s a formulator, I don't care [if it is ashless or non-ashless in the product] where I have some surprising discovery that affects performance. But it doesn't matter to me. . . . Typically, most dispersants are made ashless from a manufacturing point of view."

[4] The polymeric viscosity index improver ("PVII") is not at issue here, inasmuch as the challenged Lubrizol products are alleged to use the ashless dispersant, not the PVII. Henceforth, this opinion will not mention PVII.

> I instruct you that Exxon's claims cover the ingredients which go into the composition. If you find that a Lubrizol product is made by using the starting ingredients in the amounts called for in one or more of Exxon's claims, then that product directly infringes.

Lubrizol argues that that instruction is wrong. It maintains that, regardless of what ingredients are mixed together, there is infringement only if the final lubricant composition contains the five claimed ingredients, in the claimed amounts. Thus, although it is essentially uncontested that Lubrizol adds ashless dispersant and the other claimed ingredients in the claimed amounts to its motor oil, Lubrizol argues that there is no infringement because it was not proved that "ashless" dispersant, in the claimed amount, was present in its *final* products. Specifically, it urges, the ashless dispersant that it uses in admixture with the other ingredients specified in the claims complexes with metal moieties from those ingredients so that the dispersant in the final product can no longer be considered "ashless."

Exxon, on the other hand, urges that the trial judge's instruction reflects the proper claim interpretation that ashless dispersant identifies a starting ingredient, and under that interpretation, it does not matter what complex forms between metal and the dispersant.

The majority opinion interprets the claims somewhere between the interpretations of Exxon and Lubrizol, as covering any mixed product—final or otherwise—in which the five ingredients specified in the claims exist in the claimed amounts. The majority accepts Lubrizol's proof that at least some ashless dispersant is converted to nonashless dispersant during production of Lubrizol's products, and because of that, proving that the required amounts of the five ingredients were mixed is not enough to prove infringement. Consequently, to show infringement, the majority believes that it was Exxon's burden to prove that, at some point during production of Lubrizol's products, the mixing pot contained the claimed amounts of "ashless dispersant" and the other four claimed ingredients. And, the majority concludes, Exxon has not introduced enough evidence in the record to meet that burden.

I agree with the trial judge's interpretation of the claims that one skilled in the art, upon reviewing the patent specification, claims,

prosecution history, and testimony, would interpret claims 1 and 61 as covering a lubricating oil composition comprising the product resulting from a combination of the required five ingredients, in the claimed amounts, regardless of any unknown reactions, or metal complexes formed between those ingredients that occurs upon mixing. With that interpretation, literal infringement is admitted.

A. Claim Interpretation In General

To determine the meaning of claims, we must examine the patent specification, other claims, and the prosecution history. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979, 34 USPQ2d 1321, 1329 (Fed.Cir. 1995) (*in banc*). Resort to testimony of those knowledgeable in the art might also be helpful to the court inasmuch as claims are interpreted from the perspective of one of ordinary skill in the art. *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 882, 8 USPQ2d 1468, 1471 (Fed. Cir.1988).

B. The Specification and Claims

The patent specification discusses the invention in terms of an additive for motor oil which does not interfere with the function of other additives. The particular focus is on addition of the copper compound as an antioxidant and the amount of it that is employed. Moreover, the amounts specified in the working examples and other parts of the specification are identified as the amount of the additives, not the amounts in the final product after mixing. There is no analysis anywhere in the specification of the identity of intermediate or final "complexation" products produced by combining the ingredients specified in the claims, or of their amounts. In light of those omissions, to say that one of ordinary skill in the art would nevertheless conclude that the proportions must be measured in the pot is divorced from reality.

The interpretation that the claims list starting ingredients is bolstered by comparing the many nonborated, ashless dispersants disclosed at columns 6-8 of the patent, and expressly included in the claims, with the one type of dispersant—the borated version of certain ashless dispersants—that the parties agree does not complex with the metal moieties from the other ingredients specified in the claims. Because the nonborated, ashless dispersants do not remain completely

ashless when mixed with the other ingredients specified in the claims, under the majority's interpretation the claims would not cover use of such dispersants if a sufficient amount thereof complexed with metal to form nonashless dispersants. Yet, it is those nonborated dispersants to which the specification and claims are primarily directed.[5] Consequently, the majority interpretation limits coverage to far fewer dispersants than indicated by the specification and claims.

Moreover, the '890 specification does not describe nor teach the invention contemplated by the majority's claim interpretation, i.e., it does not teach the types of dispersant, the amounts thereof, or the conditions needed to attain a composition containing—after complexation—the amounts of ingredients specified in the claims. Although, under the majority's interpretation, the specification would be enabling for the claimed borated dispersants (because they do not complex), those dispersants constitute only a small portion of the disclosed and claimed dispersants. Hence, formulating the composition as interpreted by the majority, even if within ordinary skill in the art, would require extensive experimentation not even suggested in the patent, thereby rendering the claims invalid.[6]

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[5] Borated ashless dispersants are discussed at column 8, lines 43-50 of the '890 specification and are used in the four working examples. Of the 83 claims in '890, claims 7, 14-24, 30, 37-60, 65, and 72-82 specifically mention the borated, as well as other, dispersants.

[6] *See generally Genentech, Inc. v. The Wellcome Foundation Ltd.*, 29 F.3d 1555, 1564-65, 31 USPQ2d 1161, 1168 (Fed.Cir. 1994) (rejecting a claim interpretation that covers many inoperative permutations); *Atlas Powder Co. v. E.I. duPont De Nemours & Co.*, 750 F.2d 1569, 1576-77, 224 USPQ 409, 414 (Fed.Cir. 1984) ("if the number of inoperative combinations becomes significant, and in effect, forces one of ordinary skill in the art to experiment unduly in order to practice the claimed invention, the claims might indeed be invalid"); *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956, 220 USPQ 592, 596 (Fed.Cir. 1983) ("Because it is for the invention as claimed that enablement must exist, and because the impossible cannot be enabled, a claim containing a limitation impossible to meet may be held invalid under § 112."), *cert. denied*, 469 U.S. 835, 105 S. Ct. 127, 83 L. Ed.2d 69 (1984).

C. Prosecution History

As does the specification, the prosecution history focuses on the additives as starting ingredients, not on any reaction products (and the amounts in a final or intermediate product). As an example, the Examiner's Answer prepared with respect to appeal of the examiner's rejection of the claims in Application Ser. No. 362,114 (which was the grandparent of Application Ser. No. 49,712, the application resulting in the '890 patent), states:

> The claims are believed to be directed to the composition comprising known additives, combined at conventional levels of additions for their combined attendant functions.

And in the Reply Brief to that Examiner's Answer, the applicants state:

> The question should be whether the specific combination of additives claimed by Appellants is novel, and gives it unobvious results. The answer is the combination is novel and the combination does give unexpected results.

And elsewhere during prosecution of that application, and of SN 049,712, the examiner refers to "the various additives of the claims (dispersants . . . dithiophosphates . . .)."

Exxon's interpretation is also supported by the following episode. SN 362,114 included both claim 37, which referred to a "copper compound," and claim 38, which was to a "composition according to claim 37, said copper compound being oil soluble." Claim 38 was rejected because it duplicated claim 37.[7] The examiner took the position that the copper compound must be oil soluble—hence, "copper compound" and "oil soluble copper compound" are the same. The applicants, however, argued that "[o]ne can have a solution of a *dispersant complexed* with an oil insoluble copper compound, or can have an oil soluble [copper] compound" (emphasis added). Similar

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[7] Paragraph 2 of 35 U.S.C. § 112 (1988), states: "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

debate transpired during prosecution of Application SN 177, 367, the parent of SN 362,114. The Board agreed with applicants.[8]

The argument made during prosecution that some of the claims read on embodiments wherein the copper complexes with the ashless dispersant is probative of Exxon's claim interpretation as well as that of the examiner. Specifically, it shows the claim is directed to a product with "ashless" dispersant as a starting ingredient, inasmuch as some of the claims covered formation of a complex between that dispersant and metal, a formation that would render the dispersant "non-ashless". Significantly, the examiner found no flaw in claiming a motor oil product with additives as set out in Exxon's claim here (and I note in its foreign applications as well).

D. Other Considerations

The record includes testimony by Exxon witnesses that it is not known how copper serves as an antioxidant in the environment of the claimed composition, that certain reactions are not predictable in that environment, even though they might be predictable in a model, that it is uncertain whether zinc or phosphorus of ZDDP undergoes interaction, and in general, that no one was certain of the exact identity of the final composition or what was happening in the pot. Despite that, the majority holds applicants responsible for knowing about the formation of a complex between the five ingredients required by the claims. In effect, therefore, the majority opinion penalizes applicants for not knowing or caring about exactly how their invention works.

But, "it is axiomatic that an inventor need not comprehend the scientific principles on which the practical effectiveness of his invention rests." *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1570, 219 USPQ 1137, 1140 (Fed.Cir. 1983); *accord In re Isaacs*, 347 F.2d 887, 892, 146 USPQ 193, 197 (CCPA 1965). As

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[8] The Board noted that the examiner had not yet raised an "insufficient disclosure" rejection (under 35 U.S.C. § 112, ¶ 1). That rejection was subsequently raised, in the context of rejecting claims 15-17 of SN 049,712 on the specific ground of insufficient support in the specification for an oil insoluble copper compound. Those claims were eventually dropped by applicants.

stated in *Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 U.S. 428, 435-36, 31 S. Ct. 444, 447, 55 L. Ed. 527 (1911):

> And how can it take from his merit that he may not know all of the forces which he has brought into operation? It is certainly not necessary that he understand or be able to state the scientific principles underlying his invention, and it is immaterial whether he can stand a successful examination as to the speculative items involved. [Citations omitted.]

In that respect, Frank Johmann, who helped prosecute the relevant applications for Exxon, stated:

> [When looking at an invention like this with a number of components, to determine infringement] . . . you look at what is combined to make the product. The reason for that is that the patent law doesn't require that you understand what happens to that final product. All that is necessary is how you obtain the result. And it is sort of like baking a cake. You mix them together. And what happens chemically in the oven, you are not concerned with. With these compositions, what happens in the engine no one really knows and it is not a consideration.

Mr. Johmann stated that he has "seen probably literally thousands of lubricant patents over the years, and this is like a standard format for a composition." *Id.* Thus, claiming the composition in terms of amounts of additives is "a typical way it is done in connection with motor oil additives." *Id.* Though Mr. Johmann was a patent practitioner, as opposed to a scientist skilled in the art, he adds to the record the perspective of one who has seen many patents in this field, and by shedding some light on how claims have been written in the field, he helps illuminate how one skilled in the art would read the '890 claims.

Furthermore, when Lubrizol asked its own employee, Mr. Pindar, in 1988 to determine whether certain of its products infringed the European counterpart of '890, he performed the analysis by comparing the starting ingredients, not the final or intermediate products. Mr. Pindar, who was a scientific advisor to Lubrizol, read the claims as a person of skill in the art would read the claims. Moreover, Dr. Salomon, a lubricant formulator working for Lubrizol, testified

(although not in the specific context of interpreting claim language) that her concern as a formulator is "what goes in the pot."

Lubrizol argues that Exxon's omission of the word "mixture" from the '890 claims precludes interpretation of the claims as a list of starting ingredients. This is indeed a slender reed on which to lean. "Mixture" is implied in the composition claims at issue, because by listing five "additives," the claim implies that coverage is for a mixture of those. Thus, Exxon is claiming a "composition of matter," which:

> ". . . is an instrument formed by the intermixture of two or more ingredients, and possessing properties which belong to none of these ingredients in their separate state. . . . The intermixture of ingredients in a composition of matter may be produced by mechanical or chemical operations, and its result may be a compound substance resolvable into its constituent elements by mechanical processes, or a new substance which can be destroyed only by chemical analysis." [Footnote omitted.]
>
> Walker notes that "this class is a very broad one and embraces chemical compounds, mechanical or physical mixtures, alloys and a great variety of things." [Footnote omitted.]

1 Chisum, PATENTS, § 1.02[2] at 1-10 (1995) (quoting from W. Robinson, The Law of Patents for Useful Inventions 278-79 (1890)).

E. Conclusion

Lubrizol added to its motor oil the ingredients taught by the specification, and articulated in the claims, of Exxon's '890 patent. Lubrizol then sought to avoid infringement by arguing at trial that the claims are not literally infringed because metal ions from some of the ingredients complex with the ashless dispersant specified in the claims, converting "ashless dispersant" to nonashless dispersant. That argument was unsuccessful under the district court's claim interpretation, but it has succeeded on appeal under the majority's claim interpretation.

The majority and concurring opinions seem to be of the view that, if Exxon wanted to claim a lubricating oil composition formed by combining the five ingredients specified in the claims, it made a technical error in writing the claims. The majority would require a

product by process claim to cover a product comprising a formula of starting ingredients even though the claim requires no particular method of mixing or particular process steps. It is not a "recipe" with specific directions for making the product. Certainly the examiner found nothing technically wrong with the claim as a list of additives for motor oil. In the view of an experienced claim drafter, Mr. Johmann, this is a standard form for such a product. I am of the view that, to one of ordinary skill in the art, the claims as written cover a product, not a method.[9] Consequently, I disagree with the majority and would affirm the district court's judgment of liability.

II

I would add that the majority's reversal is an extraordinary disposition assuming its interpretation were correct. This appeal challenges the district court's ruling on Lubrizol's renewed motion for JMOL under Fed.R.Civ.P. 50. The majority holds that the district court's ruling on the merits of Lubrizol's motion was correct. Lubrizol's argument for JMOL—that the claims define the final product—is rejected. If Lubrizol had attempted to advance the position of the majority in this appeal, we would have rejected the argument as outside the grounds asserted in the JMOL motions, before submission to the jury, as well as after the verdict was returned. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1579, 1 USPQ2d 1081, 1091 (Fed.Cir. 1986) ("A specific reference to an issue in a motion for JNOV cannot preserve that issue for appeal where that issue was not specifically included in a motion for directed verdict made before the jury retired to consider its verdict."); *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1324, 21 USPQ2d 1161, 1164 (Fed.Cir. 1991) ("'Fed.R.Civ.P. 50(b) allows for entry of JNOV 'only in accordance with the party's motion for a directed verdict.'"), *cert. denied*, 504 U.S. 974, 112 S. Ct. 2942, 119 L. Ed.2d 566

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[9]The majority, in its footnote 3, questions whether the claims as so interpreted would be literally infringed if one of the "starting ingredients" is made in situ. That issue is not before us, but it appears to me that there would be literal infringement in such a circumstance because the product formed "in situ" itself can be considered a "starting ingredient".

(1992).[10] The issue on appeal is not the global question "What do Exxon's claims mean?" but rather "Did the district court err in denying Lubrizol's JMOL?" It is not unusual to see a case where a party failed to raise a defense on which it might have prevailed. However, our review of a trial court's ruling on a motion for JMOL is limited to the grounds asserted.[11] The authority of an appellate court to enter a judgment rather than remand is severely circumscribed. If no motion for JMOL on the issue is made an "appellate court [is] without power to direct the District Court to enter judgment contrary to the one it had permitted to stand." *Cone v. West Virginia Pulp & Paper Co.*, 330 U.S. 212, 218, 67 S. Ct. 752, 756, 91 L. Ed. 849 (1947); see also *Biodex Corp. v. Loredan Biomedical, Inc.*, 946 F.2d 850, 854, 20 USPQ2d 1252, 1255 (Fed.Cir. 1991) ("Quite clearly, the only available remedy upon finding error in a judgment entered on a jury verdict where [issue not preserved by proper JMOL] is limited to a

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[10] The majority does not dispute the proposition of law quoted from *Orthokinetics* but relies on an alternative ground of decision that no objection was made to the grounds stated in the post-verdict motion. In *Malta*, this court held that a general post-trial JMOL motion incorporated the specifics of the earlier JMOL motion. The majority finds support in *Malta* because the broader meaning it gives the claim than that advanced by Lubrizol is smaller than the spread between the general and specific motions in *Malta*. I read *Malta* to say that the general and specific motion in that case were the same. In any event, the majority's premise that Exxon is not prejudiced by denial of a new trial is flawed because the majority advanced a broader claim interpretation than that advanced by Lubrizol. Infringement of a narrower claim would establish infringement of a broader claim to the same invention, but the converse is not true. Failure to prove infringement of the narrower claim does not establish non-infringement of the broader claim.

[11] Fed.R.Civ.P. 50:

> Notes of Advisory Committee on Rules (1991 Amendment) state: The second sentence of paragraph (a)(2) does impose a requirement that the moving party articulate the basis on which a judgment as a matter of law might be rendered. The articulation is necessary to achieve the purpose of the requirement that the motion be made before the case is submitted to the jury, so that the responding party may seek to correct any overlooked deficiencies in the proof.

remand for a new trial."), *cert. denied*, 504 U.S. 980, 112 S. Ct. 2957, 119 L. Ed.2d 579 (1992).

The precedent cited by the majority for reversal is inapt. In *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 19 USPQ2d 1367 (Fed.Cir. 1991), this court agreed with the appellant's position raised below by JMOL and on appeal. No material issue of fact prevented entry of judgment on appeal. In *Jamesbury Corp. v. Litton Indus. Prods.*, 756 F.2d 1556, 225 USPQ 253 (Fed.Cir. 1985), the JMOL was reversed on the argued grounds and the case was remanded for trial of other issues. *Dana Corp. v. IPC LTd. Partnership*, 860 F.2d 415, 8 USPQ2d 1692 (Fed.Cir. 1988), *cert. denied*, 490 U.S. 1067, 109 S. Ct. 2068, 104 L. Ed.2d 633 (1989), reversed a JMOL on the ground argued below and on appeal.

The wisdom of Rule 50 cannot be gainsaid. By advocating a different interpretation of the claim *sua sponte*, the majority required Exxon to litigate during trial not only its opponent's position but also the unknowable position of the appellate court. Exxon has been deprived of a jury trial on an unasserted and *untried* theory. The majority decision comes out of the blue. The majority opines that the requirement that Exxon prove infringement of a *product* claim does not come out of the blue, and that Exxon, therefore, is not entitled to escape the flaw of its claim drafting by a second trial. This reflects the majority's view, not Exxon's, that a list of additives for motor oil is an invention for a process or for a product made by a process. Exxon never asserted that its claim was for anything but a product. Without pointing to any rule set by the statute or a regulation or by the MANUAL OF PATENT EXAMINING PROCEDURE, the majority decides that Exxon's standard type of claim is poorly drafted.

The majority then states that Exxon attempted to prove infringement under the majority's claim interpretation by evidence of what happened chemically in the pot in pre-final states. This evidence "is credited" in determining the post-trial motion. The record discloses that Lubrizol attempted to prove that its *final* product did not contain ashless dispersant because of what happened in the pot. Lubrizol's theory was that its dispersant, although ashless to begin with, complexed with metal so as to become non-ashless in the *final*

product. Exxon countered with evidence that such complexation was transient. To rule for Lubrizol, the majority must assume that the absence of proof by Exxon, for example, that for a few moments after mixing no complexation occurred—which would satisfy the majority's claim interpretation—means that that fact could not be proved. Whether or not Exxon was precluded from such proof is debatable. That issue was not part of Exxon's or Lubrizol's theory of the case. But precluded or not, there was no reason for Exxon to evaluate any intermediate product.

The majority notes its claim interpretation is broader than that of Lubrizol and, therefore, it is easier to prove infringement, but Exxon is denied that opportunity. In my view this is untenable. I read nothing in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 34 USPQ2d 1321 (Fed.Cir. 1995) which sanctions this procedure. *Markman* upheld a ruling on a JMOL motion. Exxon cannot conceivably have waived the issue of infringement under the majority's broader claim construction, as the majority rules. Exxon proposed deletion of an instruction on infringement by equivalents in the final version of the instructions, but this revision occurred only after the district court adopted Exxon's claim interpretation in its instructions. Exxon did not waive this issue in connection with Lubrizol's or the majority's different interpretation of the claim. The most the majority could say, as a matter of law, is that there is no possibility of proof of literal infringement. However, the question of infringement under the doctrine of equivalents is a jury question under the recent decision of this court in banc. *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1520-21 (*per curiam*) (Fed.Cir. 1995). The majority simply cuts Exxon off from its right to have the issue of infringement under the majority's claim interpretation tried to a jury.

For the foregoing reasons, I dissent to the merits and to the procedure adopted by the majority.

RULES OF CIVIL PROCEDURE

Rule 50. Judgment as a Matter of law in Jury Trials; Alternative Motion for New Trial; Conditional Rulings

* * * *

(d) Same: Denial of Motion for Judgment as a Matter of Law. If the motion for judgment as a matter of law is denied the party who prevailed on that motion may, as appellee, assert grounds entitling the party to a new trial in the event the appellate court concludes that the trial court erred in denying the motion for judgment. If the appellate court reverses the judgment, nothing in his rule precludes is from determining that the appellee is entitled to a new trial, or from directing the trial court to determine whether a new trial shall be granted.